



USAID
FROM THE AMERICAN PEOPLE



AGRICULTURAL GROWTH PROGRAM – AGRIBUSINESS AND MARKET DEVELOPMENT

**RAPID VALUE CHAIN SURVEY OF WHEAT, MAIZE, COFFEE, SESAME,
HONEY AND BEANS/PULSES WITH AMDE PROJECT ACTIVITY
RECOMMENDATIONS**

USAID TASK ORDER AID #663-TO-11-00003

December 2011

This publication was prepared by ACDI/VOCA to Contracting Officers Technical Representative Mr. Tewodros Yeshiwork, USAID Ethiopia

AGRICULTURE GROWTH PROGRAM-AGRIBUSINESS AND MARKET DEVELOPMENT

RAPID VALUE CHAIN SURVEY OF WHEAT, MAIZE, COFFEE, SESAME, HONEY, AND
BEANS/PULSES WITH MADE PROJECT ACTIVITY RECOMMENDATIONS

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

INTRODUCTION.....	IV
I. WHEAT EXECUTIVE SUMMARY	I
II. WHEAT VALUE CHAIN BACKGROUND.....	3
III. WHEAT FINDINGS AND RECOMMENDATIONS.....	10
I. MAIZE EXECUTIVE SUMMARY	15
II. MAIZE VALUE CHAIN BACKGROUND	17
III. MAIZE KEY FINDINGS AND RECOMMENDATIONS	23
I. SESAME EXECUTIVE SUMMARY	27
II. SESAME VALUE CHAIN BACKGROUND	29
III. SESAME KEY FINDINGS AND RECOMMENDATIONS.....	34
I. COFFEE EXECUTIVE SUMMARY	38
II. COFFEE VALUE CHAIN BACKGROUND	40
III. COFFEE KEY FINDINGS AND RECOMMENDATIONS.....	45
I. HONEY EXECUTIVE SUMMARY	50
II. HONEY VALUE CHAIN BACKGROUND	51
III. HONEY KEY FINDINGS AND RECOMMENDATIONS.....	55
I. BEANS/PULSES EXECUTIVE SUMMARY	60
II. BEANS/PULSES VALUE CHAIN BACKGROUND	61
III. BEANS/PULSES KEY FINDINGS AND RECOMMENDATIONS.....	65

TABLES AND FIGURES

Wheat

Table 1: Wheat National Production Data.....	3
Table 2 : Production data in AGP Woredas.....	4
Table 3 – Wheat Import volumes and values.....	4
Table 4: 2007/08 Gross Value of Production by Industry (in Ethiopian Birr).....	5

Maize

Maize Production Table 1.....	17
Maize Production Table 2 (By region).....	17
Maize table 3: Indicates handling capacity of typical traders at local, regional and urban levels.....	18

Sesame

Sesame Table 1 – Sesame price and production trend 2005 – 2009.....	29
Sesame Table 2: Production data for AGP Woredas.....	30

Beans/Pulses

Table 1: Category of candidate commodities.....	63
---	----

Detailed Value Chain Maps

MAP 1: Detailed Value Chain map- Wheat.....	7
MAP 1: Detailed Value Chain map- Maize.....	20
MAP 1: Detailed Value Chain map- Sesame.....	32
MAP 1: Detailed Value Chain map- Coffee.....	41
MAP 1: Detailed Value Chain map- Honey.....	53
MAP 1: Detailed Value Chain map- Beans/Pulses.....	65

Commodity Specific Findings and Recommendations

Wheat Findings and Recommendations Table:.....	13
Maize Findings and Recommendations Table:.....	25
Sesame Findings and Recommendations Table:.....	36
Coffee Findings and Recommendations Table:.....	47
Honey Findings and Recommendations Table:.....	59
Beans/Pulses and Recommendations Table:.....	71

ACRONYMS

AGP	Agricultural Growth Program
AMDe	Agricultural Marketing Development
ARC	Agricultural Research Center
ATA	Agricultural Transformation Agency
BAP	Best Agricultural Practices
BPP	Best Processing Practices
CSA	Central Statistical Agency
CSB	Corn-soy blend
DAP	Diammonium phosphate
EAFCFA-EC	East African Fine Coffee Association—Ethiopia Chapter
ECEA	Ethiopian Coffee Exporters' Association
ECGPEA	Ethiopian Coffee Growers, Producers and Exporters' Association
ECX	Ethiopian Commodity Exchange
EHPEA	Ethiopian Honey Processors and Exporters Association
EPOSPEA	Ethiopian Pulses, Oil Seeds and Spices Processors and Exporters Association
FAO	Food and Agriculture Organization of the United Nations
GoE	Government of Ethiopia
IFPRI	The International Food Policy Research Institute
MoA	Ministry of Agriculture
MoT	Ministry of Trade
MT	Metric tons
PPP	Public–Private Partnership
VC	Value chain
VCE	Value Chain Expansion project

INTRODUCTION

The Rapid Value Chain Surveys were developed under the USAID-funded AGP-Agricultural Marketing Development (AGP-AMDe) project which falls as a “parallel” activity within the broader AGP. The objective of the project is to strengthen the key selected value chains in the four AGP regions. The activities are expected to result in an increase in the value and volume of (domestic or export) sales of the key (selected) value chain commodities targeted by the project.

The AGP-AMDe project is a market-led approach; i.e., a “value chain” methodology designed to identify and address the constraints and market opportunities of the key value chains and stakeholders and stimulate market-led agro-enterprise and cooperative linkages with domestic, regional and international markets. Support is targeted at the value chain overall, as well as key public and private stakeholders.

ACDI/VOCA’s value chain approach is market-driven, promotes sustainable interventions, applies a learning approach, integrates gender equity and addresses behavior change communications. The approach will guide agribusinesses towards a more commercial approach and build the capacity of public and private sector to deliver appropriate technical assistance along the value chain.

The AMDe Project Team developed the rapid value chain survey based on the following:

- Review of previous studies and GoE documents on selected value chain commodities
- Detailed dialogue with key GoE agencies (ATA, AGP, MoA, key donors) to identify critical enabling environment (policy) issues
- End market assessments
- Discussions with other value chain stakeholders to understand opportunities, constraints and gaps in order to design project interventions such as:
 - End market actors (millers, processors, exporters, etc.)
 - Input suppliers (fertilizer, seed, ag chemicals, services)
 - Farmers Cooperatives, Cooperative Unions, and Associations
 - Banks and Financial Institutions
 - Consolidators, Wholesalers, ECX
 - Research Centers
 - Transporters
 - Large Independent Producers

Included in this report is a brief summary of the wheat, maize, coffee, sesame honey and beans/pulses value chains and includes key findings and recommendations. As the World Bank already completed value chain studies for each of the AGP regions, this report focuses on recommendation and suggested activities.

I. WHEAT EXECUTIVE SUMMARY

Overall Vision and Strategy: Ethiopia becomes self-sufficient in wheat production.

Ethiopia is Africa's second largest producer of wheat after South Africa. Production volumes and land area planted have been increasing annually, and estimates for 2008 are 2.4 million MT grown on 1.4 million hectares (CSA 2008). It is estimated that between 2001 and 2008 total national production volumes increased by almost 50 percent; however average yields per hectare remain low by international standards. Currently the most productive wheat producing woredas are approaching almost 50 quintals per hectare whereas the mean is in the range of 20 to 25. Wheat production by almost 4.3 million smallholders across Ethiopia, remains subsistence-based since much of it (73 percent for all cereals) is consumed on farm, with little surplus available for downstream utilization. In addition to on-farm consumption, a significant amount (20 percent for cereals) is lost due to post-harvest handling and storage losses. It is estimated that about 4 percent of the cereals marketed by smallholders reach the industrial sector (MoTI/MoARD, 2009). Wheat is one of Ethiopia's four most important staple crops in terms of both production and consumption. These four cereals (maize, wheat, teff and sorghum) together account for more than 60 percent of the average Ethiopian household's daily caloric intake, with wheat contributing close to 20 percent to their diet (Rashid, 2010). However, due to production shortfalls, Ethiopia complements its domestic demand by importing wheat annually. In 2007/08, Ethiopia imported roughly 800,000 MT, for example, to meet the shortfall. This shortfall is projected to grow, given the rise in demand for wheat-based products. In 1991, Gebre-Mariam reported that a conservative estimate of Ethiopia's per capita consumption of wheat was around 25 kgs per annum. A more recent estimate places the per capita consumption of wheat at 47 kgs per year, on average, for the 2003-05 period (CIMMYT, 2009).

Access to the Ethiopian wheat end markets is characterized by a long value chain involving numerous and costly small transactions between traders. There are over 200 medium or large scale wheat processing plants (mills) making either bread flour from (mixed) wheat or pasta (hard wheat) in Ethiopia's main urban centers. In addition, an estimated 40-50,000 small-scale local mills in the towns, villages and rural areas process flour for local markets. All the large urban mills are operating at less than full capacity, in many cases less than 50 percent. Nevertheless there has been considerable expansion in milling and processing, despite the ongoing shortage of locally produced wheat and the current import restrictions.

The opportunity to address low on farm productivity, high post harvest losses and the weak linkages between end market users and producers offers a very significant opportunity to achieve growth and efficiencies in the wheat value chain; starting with increasing the multiplication and distribution of improved wheat seed.

The end markets and value chain assessments and consultations made with the key stakeholders in all the AGP regions have clearly defined the need for stronger private-public partnerships with Government research centers. Therefore, building the capacity of the Kulumsa and Debre Zeit National Agriculture Research Centers of Excellence at the federal level and the regional research centers like the Sinana Agricultural Research Center (ARC) of Oromia, will not only to scale up capacity to provide increased volume of disease (particularly rust) -resistant varieties, but also to localize additional technical capacity in the most important wheat growing regions of the country. Therefore, demand-driven, customized technical and

financial support on a cost-sharing basis will be preceded by a detailed needs assessment to establish priority interventions and optimal sequencing.

Focused interventions should be provided to transform cooperatives, unions and private sector associations in the wheat value chain so that they can provide demand-driven services that enhance output and production efficiencies. It is suggested to encompass several business development interventions including the introduction of improved farm technologies, post harvest training, financial services and output marketing services. After adopting and employing these new business practices, cooperatives and agribusiness proprietors will realize increases in turnover and profits which will support these additional operating costs as well as stimulate more future investment.

Poor post harvest practices present considerable challenges in relation to product loss and product integrity. Significant gaps in communication along the wheat value chain have been identified as a major constraint that needs to be addressed in order to solve issues related to product quality. There is considerable lack of awareness amongst producers regarding the grade and standard of product preferences by both the flour milling and pasta making industries. At the same time these processors appear unaware of how appropriate market linkages can benefit their businesses. Initiatives that improve this interaction between end market actors, market intermediaries (traders) and those at the production end of the wheat value chain will be explored and introduced with partners willing to invest in upgrading activities of this nature. Opportunities for the introduction of price incentives related to quality, aggregation and reliability of supply will be promoted.

Interventions are required that bring about investment and innovation to provide adequate storage facilities and enhanced warehouse management will be supported with partners willing to cost share in the investment required.

The end market analysis that preceded this work plan indicated considerable scope for the introduction of new value added products, such as pasta products, biscuit & pastry flours and whole wheat flour. Milling companies, bakeries and pasta producers should invest in developing new product opportunities and diversify the wheat industry which will augment ongoing market development and increase consumption of wheat-based products. This will be necessary to avoid a surplus arising as a result of productivity enhancing interventions.

II. WHEAT VALUE CHAIN BACKGROUND

Ethiopia is Africa's second largest producer of wheat after South Africa. Production volumes and land area planted have been increasing annually to 2.4 million tons in 2008 from 1.4 million in 2002 (CSA 2008). It is estimated that between 2001 and 2008 total area planted increased by almost 50% (table 1) however average yields per hectare remain low by international standards

Table 1: Wheat National Production Data

Wheat	Production ('000 tonnes)	Area ('000 hectares)
2001	1605	939
2002	1461	931
2003	1646	1041
2004	1618	1110
2005	2213	1139
2006	2307	1213
2007	2500	1288
2008	2383	1382

Source : Extracted from CSA data

Currently the most productive wheat woredas are approaching 50 quintals per hectare whereas the national mean is in the range of 20 to 25. The AGP woredas detailed in Wheat Table 2 are significantly higher than the national average. It is hoped that these higher producing areas will provide the platform for increased national productivity.

Producers in these areas have adopted some productivity enhancing practices and can be viewed as emerging commercial farmers in their outlook and approach to production. It is widely believed that this group has the capacity and the desire to adopt additional practices, graduating to become small scale commercial producers. A constraint to this ambition however is the significant lack of improved seed and appropriate extension and technical services required to support and progress adoption of new technologies. While individual producers both small scale and commercial are willing to invest in new technologies – the absence of effective private sector input supply network for seed, fertilizer and mechanical inputs (shellers, planters, tractors) continues to hinder growth and expansion into the wheat sector.

Wheat production, by almost 4.3 million smallholders across Ethiopia, remains subsistence-based since and much of it is consumed on farm, with little surplus available for downstream utilization. In addition to on-farm consumption, a significant amount (20% for cereals) is lost due to post-harvest handling and storage losses.

Table 2 : Production data in AGP Woredas

Wheat					
	Oromia	Amhara	SNNP	Tigray	Total
Production (Qt)	2,779,323	1,467,572	895,983	912,662	6,055,540
Area (Ht)	73,616	36,663	28,494	21,571	160,344
Average yield/ha	38	40	31	42	
Maximum yield/ha	48	94	44	48	
Minimum yield/ha	13	14	9	5	
no woredas	34	22	19	8	83
kebeles	927	415	567	119	2028
households	279,454	462,462	431,181	139,727	1,312,824
Population	2,779,323	1,467,572	895,983	912,662	6,055,540

Wheat is one of Ethiopia's four most important staple crops in terms of both production and consumption. These four cereals (maize, wheat, teff and sorghum) together account for more than 60 percent of the average Ethiopian household's daily caloric intake, with wheat contributing close to 20 percent to their diet (Rashid, 2010). However, due to production shortfalls, Ethiopia complements its domestic demand by importing wheat annually. The shortfall is projected to continue given the rise in demand for wheat-based products. In 1991 Gebre-Mariam reported that a conservative estimate of Ethiopia's per capita consumption of wheat was around 25 kgs.per annum. A more recent estimate places the per capita consumption of wheat at 47 Kgs per year, on average, for the 2003-05 period (CIMMYT, 2009). In 2007/08, Ethiopia imported roughly 800,000 MT, for example, to meet the shortfall experienced internally (Wheat table 3)

Table 3 – Wheat Import volumes and values

	Wheat Import figures	
	Import	
	Vol. (tones)	Value (\$'000)
2006	862,146	224,444
2007	526,206	135,000
2008	600,238	210,000

Source: FAO stat 2009

Access to the Ethiopian wheat end markets is characterized by a long value chain involving numerous and costly small transactions between traders. There are over 200 medium or large scale wheat processing plants (mills) making either bread flour from (mixed) wheat or pasta (hard wheat) in Ethiopia's main urban centers. In addition an estimated 40-50,000 small scale local mills in the towns, villages and rural areas process flour locally for localized markets. All the large urban mills are operating at less than full capacity, in many cases less than 50%. Nevertheless there is considerable expansion in processing capacity despite the ongoing shortage of locally produced wheat and the current import restrictions.

Wheat table 4 shows the significant contribution made by the wheat products sector. These figures have the potential to be considerably higher if productivity gains are realized and manufacturing capacity/output is maximized.

Wheat table 4: 2007/08 Gross Value of Production by Industry (in Ethiopian Birr)

Large & Medium Scale Industries1	Industries	Small Scale Industries2	Combined	In Percent
4,434,831,000	Manufacture of Food Products and Beverages (excluding sugar & beer)	308,346,152	4,743,177,152	100%
609,215,000	Manufacture of Bakery Products	132,815,937	742,030,937	15.6%
318,639,000	Manufacture of Macaroni & Spaghetti		318,639,000	6.7%
1,147,029,000	Manufacture of Grain Mill Products		1,147,029,000	24.2%
2,074,883,000	TOTAL	132,815,937	2,207,698,937	46.5%

Sources: Large and Medium Manufacturing Industries Survey, CSA, 2007/08 & Small Scale Manufacturing Industries Survey, CSA, 2007/08

The opportunity to address low on farm productivity, high post harvest losses (estimated at 20 % of total output) and the current absence of market linkages between end market users and producers offers a very significant opportunity to achieve growth and efficiencies in the wheat value chain.

3.1 END MARKETS

Despite lack of product, complaints about poor quality and the uncertainty resulting from government intervention in the wheat market (government price for imported wheat set at 490 birr ex EGT and flour processed from this wheat must be sold at 738 birr) the end market actors were positive about their prospects. Addis based end market actors interviewed were amongst the largest buyers of wheat in Ethiopia and included companies such as Shoa bakery, Dire Dawa and DH Geda. These companies process in excess of 15,000 mt of wheat annually, all were operating at 50 % capacity or less and all were investing heavily into additional capacity.

Most of the large end market actors interviewed are exploring or are introducing new product lines. Shortage of expertise in food technology, food processing and food standards were cited as areas that made project should consider offering support. Most of the large processors felt they was considerable market opportunities both domestically and regionally for value added food products (flour, pasta, semolina).

Opportunities for introduction of price incentives related to quality, aggregation and reliability of supply were discussed and most companies appeared comfortable with exploring options that would address these issues.

Ethiopian wheat production does not satisfy domestic demand. In 2007, FAO statistics indicated that over 600,000 MT of wheat were imported into Ethiopia. Latest 2009 FAO statistics show 1,735,590 MT of wheat imported (with an estimated value of \$490,000,000) and 99,974 MT of wheat flour with an estimated value of \$28,722,000. Factoring in estimated domestic wheat production, approximately 44% of domestic consumption is imported.

Domestic wheat, like much of the maize crop, is most often produced, stored, collected, processed and consumed close to production sites, village clusters and towns. In this context, wheat milling is performed by small mills scattered throughout rural areas. The dual-track configuration exacerbates the disconnect between domestic production and successful value-chain development.

Import substitution is an obvious opportunity, but is complicated by fragmentation of the wheat value chain. While increased productivity/yield will spur better consolidation and distribution, there are existing supply

chain dynamics that need to be addressed before flows of Ethiopian wheat will begin to meet domestic demand. Not only will access to improved agricultural inputs be required, but the overall consolidation, storage, pricing (with the ECX playing a major rôle), of value-chain components must be reconfigured to take advantage of unmet demand domestically, and eventually within the region.

With domestic wheat grown and often consumed in rural Ethiopia, much of the imported wheat is used in the preparation of baked goods, often in urban areas. The General Manager of Shoa Bakery & Flour Factory (known as Ethiopia's oldest and largest bakery and milling operation) advised that the Ethiopian Commodity Exchange manages the GoE's wheat subsidy program. That is, the GoE has established a subsidized price for wheat for purchase by processors, bakeries and other parts of the value-chain. On the other hand, there is a GoE imposed ceiling on the price of wheat products. This situation holds true for the larger milling and baking facilities, usually in proximity to population centers. A potential future public sector issue is the financial pressure on the GoE of purchasing wheat on the international market, in addition to subsidizing the sale price of this imported wheat. The price control effort may be successful in the short term, but will increasingly stretch GoE finances.

Two market segments seem particularly promising. The first given identified demand domestically, would initially focus on improved supply chains. Given a steadily increasing population, particularly in urban areas, import substitution can present an opportunity with even a modest increase in production and a more efficient (and therefore less costly) distribution system. As domestic consumer preferences evolve, particularly in urban areas, the introduction of new products will also create opportunities for value-adding entrepreneurs.

The second market derives from the long-term production potential of Ethiopian wheat and the unmet demand in the immediate sub-region. Current inefficient production techniques resulting in low yields and unnecessarily high consolidation chains suggest that with an improved value chain organization, Ethiopia can become an important regional provider of wheat.

A large number of intermediary buyers experience excessive handling, and multiple transport/hauling requirements which hinder an efficient value chain. These limitations are intrinsic to the current informal wheat market, and must be addressed in the context of the overall value chain organization.

3.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions and particularly the movement of the product from input supplier, through different channels to the destination markets. The analysis describes functions, actors and the relations among the different level of actors participating in the value chain.

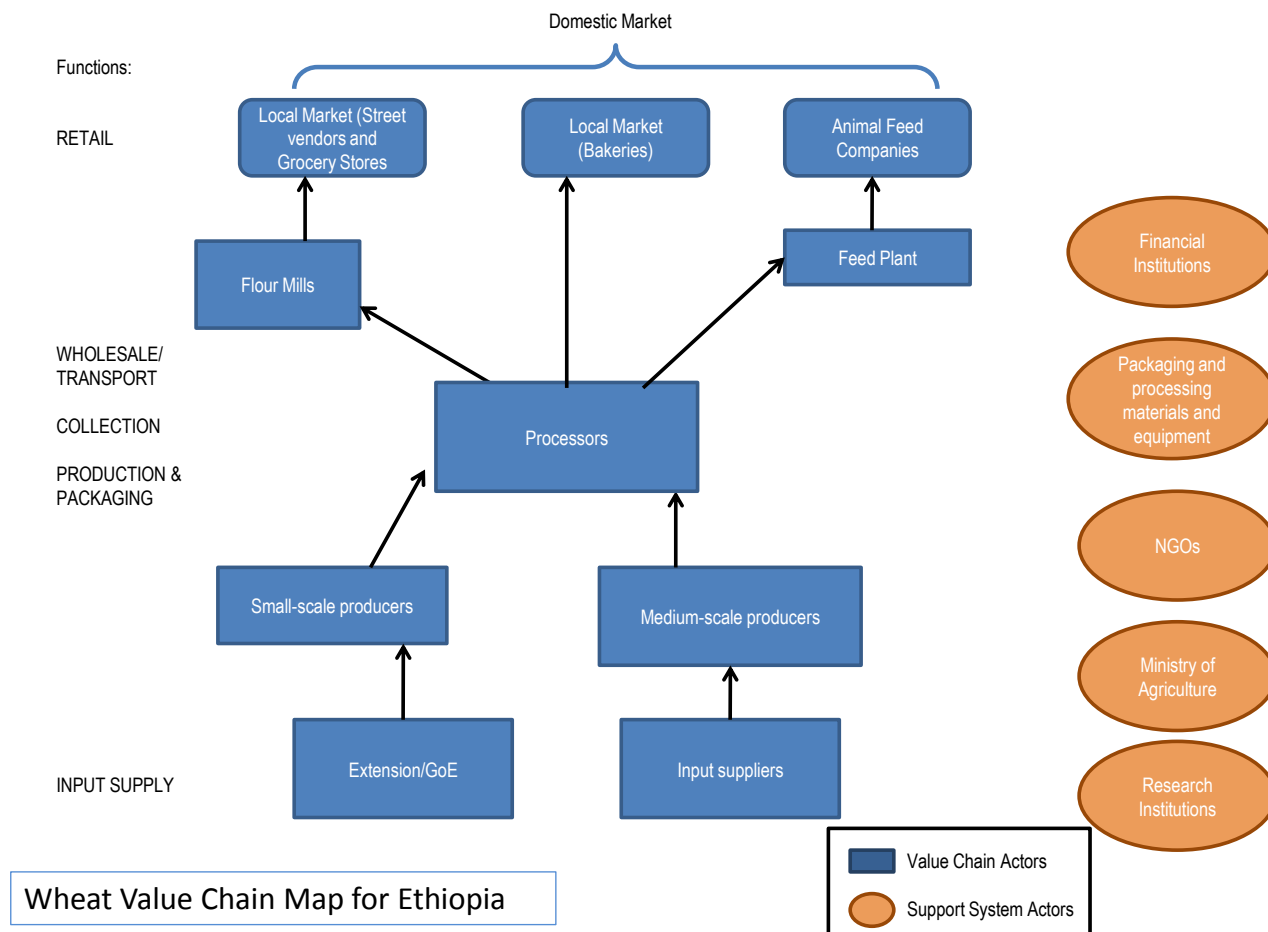
The wheat value chain assessment involved meeting with actors from each part of the value chain. The objective of these meetings was to identify and understand their perceptions of their roles within the value chain, the constraints they were operating under, the opportunities that existed and to gauge the levels of involvement with other actors both horizontally and vertically in the wheat value chain. Categories with whom meetings were held:

- End Market actors(ie millers, processors)
- Input suppliers
- Farmer Cooperatives / Cooperative Unions / Associations
- Banks and Financial institutions

- Consolidators / wholesalers/ ECX
- Research centers
- Large independent producer(s)

The VC map below provides a placement of actors within the chain and their relative size (numerically) along end market channels. The map is fluid and can, and should be updated on an annual basis.

MAP 1: DETAILED VALUE CHAIN MAP



3.3 VALUE CHAIN PARTICIPANTS AND INTER-FIRM LINKAGES

Using the Value Chain analysis framework requires looking at participants in greater detail; not only who is in the chain and what are they doing, but looking further at the dynamics affecting relationships with the industry. Relationships are important because they can change and be changed. Relationships are also critical as they allow us to understanding how market power is distributed within the VC, how information and knowledge flows, and learning takes place.

3.3.1 INPUT SUPPLIERS

Less than 10 % of wheat farmers use improved seed although over 30 % apply fertilizer. Although there is significant demand for improved seed little has been done to address availability mainly as a result of limited capacity and resources to supply sufficient improved and certified seed. Government policy to date has prevented rapid expansion of the private sector to fill this gap as seen in neighboring countries but this appears to be changing at present. The Ethiopia seed growers association is quite dynamic although most of its efforts revolve exclusively around promotion of maize seed. Private seed companies and government seed agencies are under resourced both technically and financially. Direct support to the seed sector especially where private sector engagement can be leveraged should be strongly considered from project inception phase.

Emerging commercial farmers often require mechanization to take them to the next level of commercialization. There are currently very few suppliers of mechanized equipment outside of Addis and even what is available in the capital is limited at best and not suitable for the needs of smaller farmers. Tractors and basic tillage equipment (ploughs, planters, sprayers) are available but products suitable for smaller farmers are not.

3.3.2 PRODUCERS

Despite difficulties associated with absence of inputs at all levels producers both commercial, small holder and cooperative were positive about prospects for wheat expansion. Absence of inputs was cited as the main obstacle, this included access to capital and mechanization. Most producers were already planting or considering planting additional areas under wheat. Modest increased yields per acre had been realized in some areas (eg Ofla woreda in Tigray district) however those interviewed felt gains would be greater if extension services were stronger coupled with improved availability of inputs.

Very limited storage capacity was cited as a problem however farmers appeared to be unaware of the real commercial benefits accrued as a result of having adequate storage facilities and good post harvest handling practices in place. Most of their crop will be sold soon after harvest farmers now producing additional wheat compared with two or three years ago had not invested in building additional storage capacity. Provision of a cost benefit analysis for simple/inexpensive storage structures to demonstrate the commercial benefits of storage would be a useful project exercise.

3.3.3 RESEARCH INSTITUTIONS

The value chain assessment and consultations made with the key stakeholders in all the AGP regions have clearly demonstrated the need to build the capacity of the Kulumsa and DebreZeit National Agricultural Research Centers of Excellence at federal level and the regional research centers like the Sinana Agricultural Research Center of Oromia, not only to scale up capacity to provide increased volume of disease (particularly rust) resistant varieties, but also to localize additional technical capacity in the most important wheat growing regions of the expand adaptation of field trials, to increase volume of basic seed for multiplication, to increase capacity to certify seed and to develop field demonstrations using applied research.

3.3.4 TRADERS/AGGREGATORS

There are many links in the wheat value chain between the farm gate and the processor. There are two types of processor in Ethiopia – the medium to large urban based processor numbering over 200 and the smaller ‘artisan’ mills of which there are several thousand probably between 40- 50,000. The larger mills buy from a series of traders whereas the local smaller mills either buy directly from farmers who deliver or purchasing

from traders. The existence of a large number of traders means that all wheat available for sale is sold but not necessarily at a favorable price to the producer. Larger traders are licensed but the many smaller ones are not. In addition to the traders there exists a network of brokers acting between the traders and the larger millers. Little or no attention is likely to be given to quality of wheat by either traders or brokers, until the end market begins to pay a price premium for quality.

Actors within this portion of the value chain provide significant opportunities through training to raise the quality of produce passed through the chain from farmer/cooperative to processor, however this is unlikely to happen without industry driven incentive schemes in place.

3.3.4 FINANCIAL INSTITUTIONS

While training will help raise traders awareness of how to maintain product quality and integrity, access to finance and availability of storage were cited as key constraints continuing to hinder traders from aggregating larger quantities and shortening transaction times.

Initiatives which help alleviate the latter should be given serious consideration. Developing financial products that facilitate the commodity transaction process have the potential to streamline the flow of commodity along this value chain and it is recommended that options are considered by the project to explore possible solutions. During the assessment process banks and financial institutions were interviewed and there was an openness to develop and trial new products and services some of which could be tailored to suit the needs of the middlemen sector. Warehouse receipt management and development of a strategy to introduce this option will require collaboration between banks, suppliers and traders.

In general access to capital was limited with many organizations utilizing their own resources where possible rather than sourcing credit. Many companies, cooperatives and individuals alike were challenged by the procedures required to obtain loan finance and likewise the financial institutions preferred to deal with clients or potential clients already more comfortable in dealing with loans and of course those with a positive credit rating. Despite the latter financial institutions were on the whole receptive to developing new products and collaborate in training exercises that would build client capacity.

III. WHEAT FINDINGS AND RECOMMENDATIONS

The value chain assessment revealed a series of opportunities and constraints across the wheat value chain as summarized below and in wheat table 5. These are divided into three major categories ie producer, aggregator/trader and end market.

Key business opportunities in the wheat value chain include the following:

- Growing domestic demand for pasta and bread flour
- Opportunity to expand production for small and commercial farmers alike
- Import substitution for both raw and finished products
- High demand for improved seed production
- Wheat bran important by-product for animal feed
- Crop is highly responsive to fertilizer and other inputs
- Business opportunity for expanded agribusiness input and service suppliers

Key constraints in the wheat value chain discovered are the following:

- Wheat varieties are susceptible to diseases and pests; yellow rust is particularly devastating
- Wheat is susceptible to post-harvest losses
- Insufficient and poor quality seed (lack of uniformity, adulteration)
- Limited mechanization for planting, production and harvesting
- Transport is expensive and scarce
- Inefficient aggregation introduces additional costs and further deteriorates quality
- Storage capacity is inadequate and contributes to post harvest losses:
- Community level (small and commercial farms)
- Primary cooperatives
- Cooperative unions
- Traders
- Poor warehouse management practices and handling technologies results in further quality deterioration of the crop
- Price controls and subsidies attached to price capping should be redesigned to avoid disincentives for end market actors
- Lack of access to finance at many critical points along the value chain (to purchase inputs, to construct storage facilities, to finance inventory)
- Large number of value chain actors lead consumers to pay excessive prices for wheat/flour products
- Weak commercial linkages and dialogue along the value chain inhibit business expansion opportunities for VC actors

It should be noted that there exists minimal dialogue between value chain actors. The end market was largely disinterested in engaging with producers and viewed any engagement as a waste of time and money. During the interview process it was clear that many end market players had rarely engaged with producers and did not appear to be aware of the significant benefits that arise as a result of changing this situation.

Likewise those in the middle ie traders/ aggregators operated in isolation of each other and there is a considerable amount of mistrust amongst the producer category of the middlemen. There exists considerable scope to improve this situation and activities that promote effective vertical communication will result in long term gains for the sector as a whole.

There is very strong demand for wheat and the outlook for this to continue is positive. Changes in government policy as far as inputs and their distribution are encouraging although pace of change is slow and frustrating especially for the private sector. The wheat value chain presents significant opportunities for enhanced competitiveness and efficiencies of production.

Therefore, the analysis suggests to build the capacity of the Kulumsa and Debre Zeit National Agriculture Research Centers of Excellence at the federal level and the regional research centers like the Sinana Agricultural Research Center (ARC) of Oromia, not only to scale up capacity to provide increased volume of disease (particularly rust) -resistant varieties, but also to localize additional technical capacity in the most important wheat growing regions of the country. Therefore, demand-driven, customized technical and financial support on a cost-sharing basis will be preceded by a detailed needs assessment to establish priority interventions and optimal sequencing.

It is also recommended to work to expand field adaptation trials, which will increase the number of approved varieties available for multiplication. The institutional capacity of regional seed certifying bodies will be explored and addressed accordingly. Additionally, it is recommended to work with appropriate ARCs to develop field demonstration packages so that findings in on-going applied research are disseminated to impact change and growth in the value chain.

As in the maize value chain described below, focused interventions should be provided to transform cooperatives, unions and private sector associations in the wheat value chain so that they can provide demand-driven services that enhance output and production efficiencies. It is suggested to provide support to the development and initial delivery of services on a cost-sharing basis to stimulate innovation and transformation. It is recommended to encompass several business development interventions including the introduction of improved farm technologies, post harvest training, financial services and output marketing services. After adopting and employing these new business practices, cooperatives and agribusiness proprietors will realize increases in turnover and profits which will support these additional operating costs as well as stimulate more future investment.

Significant gaps in communication along the wheat value chain have been identified as a major constraint that needs to be addressed in order to solve issues related to product quality. There is considerable lack of awareness amongst producers regarding the grade and standard of product preferences by both the flour milling and pasta making industries. At the same time these processors appear unaware of how appropriate market linkages can benefit their businesses. Initiatives that improve this interaction between end market actors, market intermediaries (traders) and those at the production end of the wheat value chain will be explored and introduced with partners willing to invest in upgrading activities of this nature. Opportunities for the introduction of price incentives related to quality, aggregation and reliability of supply will be promoted.

As in the other proposed value chains in this report, interventions that bring about investment and innovation to provide adequate storage facilities and enhanced warehouse management should be supported with partners willing to cost share in the investment required.

The end market analysis that preceded this work plan indicated considerable scope for the introduction of new value added products, such as pasta products, biscuit & pastry flours and whole wheat flour. It is recommended to work with interested parties, primarily milling companies, bakeries and pasta producers, to develop new product opportunities and diversify the wheat industry which will augment ongoing market development and increase consumption of wheat-based products.

A summary of these findings are provided in the table below:

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> • Improved market efficiencies as a result of improved dialogue/understanding • Growing demand for wheat linked to changes in Ethiopian's diet • Opportunity for value addition – wheat flour , enhanced wheat products • Growing demand linked to regional and national food security • Increased demand for feed in the livestock sector 	<ul style="list-style-type: none"> • Very poor vertical dialogue between value chain actors • Shortage of availability of wheat to meet this demand • Lack of knowhow on food technology and quality standards • Poor infrastructure in the market place at all levels • Shortage of availability of wheat to meet this demand 	<ul style="list-style-type: none"> • Promote activities to increase dialogue and trust between value chain actors • Facilitate increased engagement between end market and producers to improve market linkages and increase availability of wheat • Facilitate training programs that build capacity and knowhow in food science and technology resulting in new and improved value added products • Facilitate increased engagement between end market and producers to improve market linkages and increase availability of wheat • Facilitate increased engagement between end market and producers to improve market linkages and increase availability of wheat
Traders/Aggregators	<ul style="list-style-type: none"> • Additional crop for sale if losses reduced • Additional and improved quality crop for sale if additional storage in place • Improved market efficiencies as a result of improved dialogue/understanding 	<ul style="list-style-type: none"> • Significant post harvest losses • Inadequate storage at all levels of value chain • Very poor vertical dialogue between value chain actors 	<ul style="list-style-type: none"> • Sponsor training and certification activities to reduce post harvest losses • Facilitate provision of adequate storage facilities at all stages of wheat value chain from farmer onwards • Promote activities to increase dialogue and contact - building commercial relationships between value chain actors

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
Producer	<ul style="list-style-type: none"> • Potential to increase production and productivity • Increased sales of improved hybrid seed to meet demand • Large business opportunity for expanded agribusiness input and service suppliers • Development of rust resistant varieties will present a strong market advantage to the organization that can do so • Introduction of new financial goods and services will expand client base for financial institutions 	<ul style="list-style-type: none"> • Lack of technical knowhow at production level • Inadequate supply of improved planting material • Inadequate distribution network to supply productivity enhancing inputs ie seed and fertilizer • Some wheat varieties very susceptible to rust • Lack of appropriate financial goods and services. Lack of capacity to successfully apply and receive existing loan products Weakness in the institutional structures in the family and private sectors such as cooperatives or farmers associations; • Lack of legally binding contracts with processors/lack of trust, leading to broken sales agreements 	<ul style="list-style-type: none"> • Facilitate industry led extension program involving Seed Association, miller's associations and private sector with vested interest in increased productivity in key wheat producing areas. • Facilitate cooperatives to take on role as organized tillage service providers ie planting, harvesting, weed control, storage • Support research centers, state and private seed companies to scale up at all levels availability of improved planting material. • Facilitate expansion of private sector led input supply especially in wheat producing areas • Support and facilitate development, release and promotion of rust resistant varieties • Devise, pilot and scale up new financial products. Collaborate in training of potential applicants in how to apply and comply with loan procedure and process.

I. MAIZE EXECUTIVE SUMMARY

Overall Vision and Strategy: Volume and quality of maize is increased to meet demand in the expanding domestic and potential regional export markets

Ethiopia is Africa's third largest producer of maize. It is the most widely produced crop in Ethiopia in terms of numbers of households involved in its production, the number of hectares planted and volume of quintals produced per hectare. In 2008, Ethiopia produced in excess of 4.1 million MT of maize. Maize plays a critical part in Ethiopian food security, providing approximately 20 percent of calorific intake. In addition, maize is a cheaper source of calories than other key cereal staples such as teff, wheat and sorghum, raising its importance as a source of affordable calories. This importance will be further enhanced as productivity gains are realized and unit cost of production is lowered.

Despite its agronomic significance, the maize market continues to be dominated by a large number of small, localized transactions, trading a poor quality product. The majority of maize is consumed within the household and the bulk of the maize crop is traded in the months immediately after it is harvested. This is primarily due to the absence or insufficiency of on-farm and community storage facilities. A relatively small proportion of total maize produced is consumed by urban-based end market consumers manufacturing human or animal feed products; however it is within these two areas that the greatest potential growth in demand for maize lays. It is expected that this growing domestic demand may soon exceed current supply levels.

Presently maize prices are approaching import parity levels. Part of this escalation of prices is due to structural failures in the market and high cost of transport of maize within the country. Solving these issues will help even out market prices, enabling producers to plan for more predictable domestic demand and eventually capture export market opportunities.

The active participation and visibility of women in transformed cooperatives will unleash the significant capacity that female members of the society have not been able to offer so far. Gender awareness programs will be integrated into cooperative development activities at all levels. Collaborating cooperatives, unions and private organizations will be encouraged to have increased numbers of women in all areas of activity, both in managerial and technical roles.

To avoid surplus production leading to market collapse as the project catalyzes increased productivity and reduced losses, it is recommended to facilitate linkages between value chain actors to support more effective marketing, agro-processing, value addition and new product development. Improved access to rural and urban end markets will be vital to absorbing surplus production. Organized efficient market hubs will be facilitated where maize of a consistent reliable marketable quality can be found. This will include co-investment with private sector in storage and warehouse management systems that create maize market expansion opportunities. Certification and collaboration with the ECX will be facilitated to support the increased volumes of maize that will be traded through the ECX in the next few years.

The intensive value chain assessment conducted in the run up to the preparation of this work plan revealed a significant lack of communication along the Ethiopian maize value chain, in large part due to the multitude of intermediaries (middle men) who are viewed as untrustworthy by other market actors. The disconnection between production and end market players has resulted in considerable information gaps, particularly in the

areas of market demand characteristics. The project will intervene both upstream and downstream to correct this communication gap and stimulate the dissemination of market information leading to the development of market-based price incentives linked to quality and aggregation. Activities to develop outgrower arrangements and contract buying will also be facilitated. The creation of effective business linkages in the early stages of the project will help build market confidence and ultimately value chain partnerships that contribute to value chain competitiveness.

Access to finance—from micro lending to value chain credit to large scale investment—has an important role in stimulating growth and development with the maize sector. It is recommended to actively develop and promote appropriate financial services equally accessible to men and women. Through further analysis it is recommended that a selection of financial institutions willing to engage in value chain finance, should establish a platform from which a range of such services can be launched and expanded. Intensive training involving all actors (producers, cooperatives, unions, private companies and lenders) will raise the profile of agricultural lending from one that to be avoided to one that offers a real opportunity to institutions wishing to expand into this sector.

II. MAIZE VALUE CHAIN BACKGROUND

Ethiopia is Africa's 3rd largest producer of maize. It is the most widely produced crop in Ethiopia in terms of numbers of households involved in its production, the number of hectares planted and volume of quintels produced per hectare. In 2008, Ethiopia produced in excess of 4.1 million mt. of maize, 40 percent higher than teff, 56 percent higher than sorghum, and 75 percent higher than wheat production. Grain production and marketing are particularly important to the Ethiopian economy, studies show that cereals account for 65 percent of the agricultural value added, equivalent to about 30 percent of the national GDP. With an average yield of 1.74 tons per hectare (equal to 3.2 million tons grown over 1.8 million hectares) maize is the leading cereal crop in Ethiopia in terms of total production and yield per hectare. It plays a critical part in Ethiopian food security providing approximately 20 % of calorific intake. In addition maize is a cheaper source of calories than other key cereal staples such as teff, wheat and sorghum raising its importance as a source of affordable calories. This importance will be further enhanced as productivity gains are realized and unit cost of production is lowered.

Maize Table 1

Maize	Production ('000 tonnes)	Area ('000 hectares)
2001	3306	1651
2002	3050	1647
2003	3154	1718
2004	2744	1766
2005	2906	1810
2006	3912	1804
2007	4124	1883
2008	4162	1978

Table 1 shows the growth in area of maize planted. This is gaining momentum with increased availability and promotion of improved maize seed in the last few years coupled with increased demand as maize becomes a more important and accepted part of the Ethiopian diet.

Maize Table 2 Extracted from CSA data

Maize	Oromia	Amhara	SNNP	Tigray	Total
Production (Qt)	6,973,107	6,680,608	5,203,294	707,594	19,564,603
Area (Ht)	153,942	122,880	117,513	15,755	410,090
Average yield/ha	45	54	44	45	
Maximum yield/ha	68	74	86	48	
Minimum yield/ha	7	17	22	32	
no woredas	34	22	19	8	83
kebeles	927	415	567	119	2028
households	279,454	462,462	431,181	139,727	1,312,824
Population	2,779,323	1,467,572	895,983	912,662	6,055,540

Maize Table 2 indicates production figures in the selected 83 woredas, where AMDe project will support activities within the maize value chain. Average maize yields at 45 quintels /ha in AGP woredas are considerably higher than national averages (17 quintels /ha)

Despite its agronomic significance the maize market continues to be dominated by a large number of small localized transactions trading a poor quality product. The majority of maize is consumed within the household and the bulk of the maize crop is traded in the weeks/ months immediately after it is harvested. This is primarily due to lack of or absence of on farm and community storage facilities. A relatively small proportion of total maize produced is consumed by the urban based end market manufacturing human or animal feed products. Ironically it is within these two areas that the greatest potential growth in demand for maize lies.

Maize table 3: Indicates handling capacity of typical traders at local, regional and urban levels

Aggregator/handler/Agent	Transaction volume
Local to producer	< 2 mt
Not local/ regional	2-5 mt
Addis and larger centres	>10 mt per week
Retail	2 mt

Source : RATES maize value chain study

Ethiopia is surrounded by possible regional export market opportunities with Sudan and Kenya being the most likely export destinations. However local pricing structure, with the exception of years of market collapse (2002), has meant export opportunities have not been realized – see maize table 4 below.

A combination of exorbitant transport charges, the dysfunctional nature of the maize market (largely informal and predominately local transactions) significant structural deficiencies (including absence of adequate storage particularly at producer, community and cooperative level), high unit of production costs and the large number of transactions currently involved in moving product from producer to the end market all contribute to high maize prices limiting export opportunities to date.

2.1 END MARKETS

The vast majority of maize is consumed locally at home or in the community close to where it is produced. Exact figures are not available but it is estimated that only about 25 % is consumed in the Addis based maize meal/flour sector or in animal feed sector. There are no payments in place that relate to quality or aggregation so there is little/no incentive to supply significant volumes of a quality product. Most of the larger end market buyers (those purchasing > 10,000 mt /year) eg companies such as Fafa Foods and Hilina Foods buy directly from traders who deliver maize to their mills. In most cases the processors buy from a limited number of dedicated agents with whom they have developed a ‘working’ relationship over time.

Value chain credit exists and operates effectively within the value chain. It is an important mechanism for sourcing product in the absence of or instead using formalized credit facilities. Buyers advance funds to known traders who purchase maize on their behalf or in reverse, traders deliver on credit and receive payment at a later date usually within two weeks.

The large end market actors interviewed were positive about demand for maize and maize by products. Their major concern revolved around receiving an adequate and reliable supply of quality maize. Most had launched new value added products in the last two years and were exploring additional products such as enriched flour, breakfast cereals, and fortified foods for children above 6 months of age. All were positive about growth in this sector to date and potential growth in the value added sector in the medium term. Local and regionally export opportunities for consumable food items were considered to be very strong – growth estimated at 15 %

year on year. Most end market processors interviewed were keen to move away from CSB products for the relief markets (Corn Soya Blend) as these markets – although volumes were good margins are low.

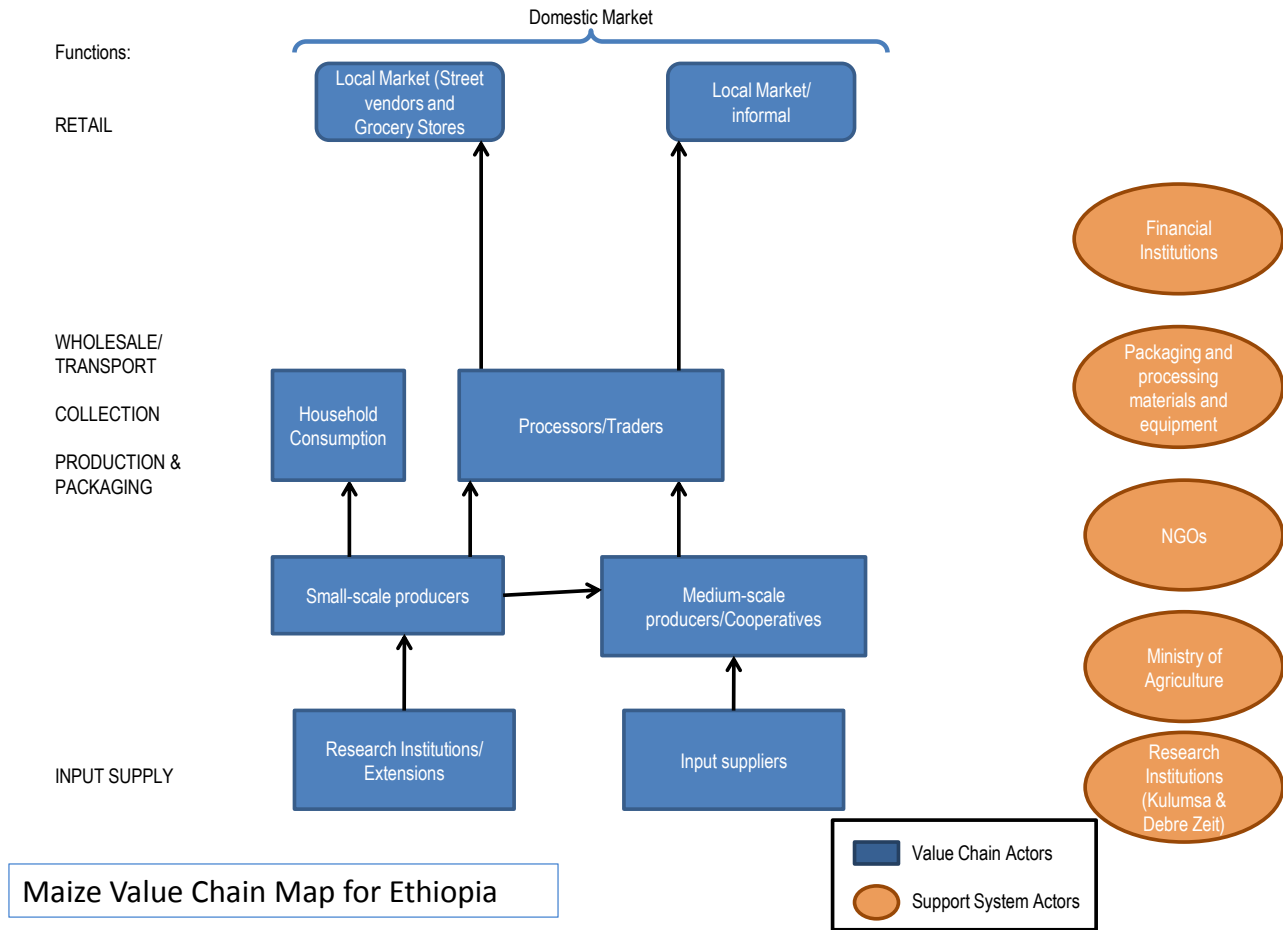
2.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions and actors within it are related. The visual tool is a representative diagram of the relationship with other actors both horizontally and vertically in the maize value chain.

- End Market actors (ie millers, processors)
- Consolidators / wholesalers/ ECX
- Input suppliers
- Farmer Cooperatives / Cooperative Unions / Associations
- Large independent producer(s)
- Banks and Financial institutions
- Research centers

The VC map below provides a placement of actors within the chain and along end market channels. The map is fluid and can, and should be updated on an annual basis. It was produced following discussions and interviews with stakeholders, including input suppliers, cooperatives, financial institutions, research centers and end market actors.

MAP 1: DETAILED VALUE CHAIN



2.3 VALUE CHAIN PARTICIPANTS AND INTER-FIRM LINKAGES

Using the Value Chain analysis framework requires looking at participants in greater detail; not only who is in the chain and what are they doing, but looking further at the dynamics affecting relationships with the industry. Relationships are important because they can change and be changed. Relationships are also critical as they allow us to understanding how market power is distributed within the VC, how information and knowledge flows, and learning takes place.

2.3.1 INPUT SUPPLIERS

Almost 30 % of Ethiopia’s maize farmers currently use improved maize seed (open pollinated and hybrid varieties) and about 20 % apply fertilizer(mostly at reduced rates). The Ethiopia Seed association is active and has a focused approach to promoting the increased use of improved maize seed. It is made up of a mixture of six private companies including Pioneer Seed and Alamyu -representing SeedCo - and eight state seed bodies. The association would be an excellent partner for development as it is a good example of a working public private partnership.

At present, virtually all fertilizer in Ethiopia is distributed through the cooperative system. DAP and Urea are currently the only fertilizers available to small holders and commercial farmers alike irrespective of the field

crop or soil type. Although government says it is now possible to distribute fertilizer privately no evidence of this arrangement was found. ATA and other organizations are lobbying for easier access to fertilizer. It appears that legislation in this regard is changing but progress is slow.

2.3.2 PRODUCERS

Most farmers in Ethiopia hold and work very small parcels of land. Over the years, farmers (with the There are three categories of producer – small holder(less than 2 hectares) selling about 20 % of their production, market oriented small scale farmers (mostly growing 2- 5 hectares) selling about 50 % of their production and large scale commercial farmers (growing over 50 hectares) selling all of their production. The latter are few in number and many grow seed under contract for either the private seed companies or government seed bodies. Most of the small scale farmers have inadequate storage facilities and is estimated that over 60 % of production is sold within three months of harvest.

It is important to note that promotion of productivity enhancing techniques should be coupled with building increased storage capacity at farmer level and introduction of improved post harvest handling practices. If not the current post harvest losses experienced (estimated at 25 %) will be exacerbated should farmers adopt, as expected, productivity enhancing practices. Any additional would thus be lost to post harvest damage resulting in negligible net productivity/profitability gains overall.

Most small scale producers currently procure their inputs from their affiliated cooperative. However additional services that one might expect to be available from a proactive member focused cooperatives are not seen. There is enormous potential to mobilize a range of demand driven services for farmers through the cooperative network but in many cases this will require significant capacity building of the management and personnel within the cooperatives themselves.

The range of services to be considered in addition to input supply would include tillage services ie ploughing, planting, marketing services through crop aggregation , market information services, general crop husbandry information provision, storage, financial services. There is the opportunity for many cooperatives to become ‘one stop shop’ providers/centers of a range of goods and services. However while it is recommended that this possibility should be explored it should be noted that what works for one cooperative may not be possible at another.

2.3.3 Research Centers

The value chain assessment identified the importance of enhanced capacity at research level so that it may meet and support the growing demands of the maize sector. This includes capacity to develop new varieties and also the need to scale up capacity to expand adaptation of field trials, to increase volume of basic seed for multiplication, to increase capacity to certify seed and to develop field demonstrations using applied research. Primary research centers for the maize sector including the Ethiopian Institute of Agricultural Research (BAKO and Hawassa centers) and regional research centers have very capable staff but overall there is a disconnect between what the maize sector requires to progress/facilitate it's commercialization and what is currently on offer.

At present there are two types of fertilizer available to Ethiopian farmers, DAP and UREA. As with deficiencies in the supply of seed this is an area that needs to be addressed. While ongoing change is supposedly in place it was very evident that all players, with the exception of the state sector, are frustrated by this archaic approach to enhancing productivity. Coupled with changing the current modus operandi for fertilizer supply, policy change is also recommended as far as soil testing and profiling is concerned. Certain initiatives are supposedly underway but unfortunately for the maize sector it appeared unlikely that constructive change would materialize in the short term.

2.3.4 Traders/Consolidators

The vast majority of transactions are small, localized and numerous. Most traders do not possess storage facilities and a typical trader will transact less than 2 metric per week during the main trading period in the three months post harvest. Much of the grain handled is of poor and inconsistent quality. There is little or no incentive to tackle the latter as there is no price reward for doing so. It is anticipated that maize will be traded over the ECX from 2012. This may provide an opportunity to address the poor quality and aggregation issues currently the norm in the maize sector on a national basis using a structured approach. A key intervention point should be activities related to increased storage, facilitation of aggregation and improved handling to reduce losses and maintain quality. Actors within this portion of the value chain provide significant opportunities through training to raise the quality of produce passed through the chain from farmer/cooperative to processor, however this is unlikely to happen without industry driven incentive schemes in place.

2.3.5 Financial Institutions

While training will help raise traders awareness of how to maintain product quality and integrity, access to finance and availability of storage were cited as key constraints continuing to hinder traders from aggregating larger quantities and shortening transaction times. Initiatives which help alleviate the latter should be given serious consideration. Developing financial products that facilitate and enhance the commodity transaction process have the potential to streamline the flow of commodity along this value chain and it is recommended that options are considered by the project to explore possible solutions. During the assessment process banks and financial institutions were interviewed and there was an openness to develop and trial new products and services some of which could be tailored to suits the needs of the middlemen sector. Warehouse receipt management and development of strategy to introduce this option will require collaboration between banks suppliers and traders where suitable candidates are present.

In general access to capital was restrained with many organizations utilizing their own resources where possible rather than sourcing credit. Many companies, cooperatives and individuals alike were challenged by the procedures required to obtain loan finance and likewise the financial institutions preferred to deal with clients or potential clients already more comfortable in dealing with loans and of course those with a positive credit rating. Despite the latter financial institutions were on the whole receptive to developing new products and collaborate in training exercises that would build client capacity.

III. MAIZE KEY FINDINGS AND RECOMMENDATIONS

The value chain assessment revealed a series of opportunities and constraints across the maize value chain as summarized below and in maize table 5. These are divided into three major categories (ie producer, aggregator/trader and end market).

Key business opportunities discovered through the value chain analysis include the following:

- Growing domestic and regional demand (food security)
- Opportunities for value added (changing dietary habits and preferences, concentrated starch)
- Employment opportunity for women and youth to sell green/fresh maize
- Increasing demand for animal feed
- Potential to increase production and productivity – both for small and commercial farmers
- Vast demand for improved hybrid seed
- Crop is highly responsive to fertilizer and other inputs
- Large business opportunity for expanded agribusiness input and service suppliers
- Intercropping opportunities

Key constraints to the maize value chain include the following:

- Maize value chain is segmented and dominated by informal transactions
- Large end market buyers purchase small percentage of total crop (majority of crop is sold through small local transactions)
- Growth of commercial production is limited due to the perception amongst growers that the primary market is low value and localized
- Shortage of good quality planting material
- Maize damage as a result of stalk borer
- Maize is highly susceptible post-harvest losses
- Storage capacity is inadequate
- Community level
- Primary cooperatives
- Insufficient knowledge of warehouse management
- Lack of access to finance at many critical points along the value chain (to purchase inputs, to construct storage facilities, to finance inventory)

It should be noted that there exists minimal dialogue between value chain actors. The end market was largely disinterested in engaging with producers and viewed any engagement as a waste of time and money. During the interview process it was clear that many end market players had rarely engaged with producers and did not appear to be aware of the significant benefits that arise as a result of changing this situation.

Likewise those in the middle ie traders/aggregators operated in isolation of each other and there is a considerable amount of mistrust amongst the producer category of the middlemen. There exists considerable scope to improve this situation and activities that promote effective vertical communication will result in long term gains for the sector as a whole.

There is very strong demand for maize and the outlook for this to continue is positive. Changes in government policy as far as inputs and their distribution are encouraging although pace of change is slow and frustrating especially for the private sector. The maize value chain presents significant opportunities for enhanced competitiveness and efficiencies of production.

Private sector seed companies have been very proactive in pushing for policy change that would improve distribution and availability of improved seed. Private seed companies should be supported as they have the potential to drive and introduce positive change into the maize sector.

Product quality, producer productivity and effective extension services both private and public are recommended as being the three focal areas to be addressed to bring about systemic change in the maize value chain.

Additionally, it is recommended to develop the capacity of research centers to meet national requirements for increased volumes of certified and improved seed will also be critical. Collaborating with key research centers such as the Bako Agricultural Research Center of Excellence for maize will be augmented by applied research in regional centers like the Hawassa and Jimma ARCs and other local institutions, which will contribute significantly towards raising capacity at local levels. Likewise the intended scaling up of the involvement of private seed companies, unions, regional seed enterprises and the Ethiopian Seed Producers Association will improve their ability to produce, demonstrate and market seed that meets market requirements. Interventions will also build capacity in soil testing services, and soil profiling will contribute towards maintenance of soil fertility and eventually mitigate the challenges of environmental degradation through appropriate fertilizer applications.

It is recommended to work intensively to transform cooperatives, unions, associations and private sector firms to become full or key service providers for their members or clientele. Well run, dynamic, member-oriented cooperatives and private sector associations have the potential to reach and raise the productivity of the vast majority of Ethiopian smallholder farmers and small- and medium-scale businesses. Expanding beyond input supply services—the current mainstay of many groups—cooperatives and associations can and should provide products and services that enhance the productivity, profitability and food security of their members. Such services may include finance, processing, storage, knowledge dissemination, and improved market linkages. This will require considerable training input to stimulate change to existing business management systems and approaches. It involves provision of packaged training and mentoring that can bring about a shift in attitudes, and raise the managerial and entrepreneurial skills required to offer effective services to members. Focused, demand-driven institutional capacity building, tailor-made interventions in marketing and market linkages, and stimulating value addition through the introduction and adaptation of proven agro-processing systems and practices will diversify opportunities in the value chain.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> Improved market efficiencies as a result of improved dialogue/ understanding Growing demand for maize linked to changes in Ethiopian's diet Opportunity for value addition – maize flour , enhanced maize products Growing demand linked to regional and national food security Increased demand for animal feed especially poultry 	<ul style="list-style-type: none"> Very poor vertical dialogue between value chain actors Shortage of availability of maize to meet this demand Lack of knowhow on food technology and quality standards Poor infrastructure in the market place at all levels to meet this opportunity Shortage of availability of maize to meet this demand 	<ul style="list-style-type: none"> Promote activities that result in increased dialogue and contact and that build relationships between value chain actors Facilitate increased engagement between end market and producers to improve market linkages and increase availability of maize Facilitate training programs that build capacity and knowhow in food science and technology resulting in new and improved value added products Facilitate increased engagement between end market and producers to improve market linkages and increase availability of maize Facilitate increased engagement between end market and producers to improve market linkages and increase availability of maize
Trader/ Aggregator	<ul style="list-style-type: none"> Additional crop for sale if losses reduced Additional and improved quality crop for sale if additional storage in place Improved market efficiencies as a result of improved dialogue/ understanding 	<ul style="list-style-type: none"> Significant post harvest losses Inadequate storage at all levels of value chain Very poor vertical dialogue between value chain actors 	<ul style="list-style-type: none"> Sponsor training and certification activities of to reduce post harvest losses Facilitate provision of adequate storage facilities at stage of sesame value chain from farmer onwards Promote activities that result in increased dialogue and contact and that build relationships between value chain actors
Producer	<ul style="list-style-type: none"> Potential to increase production and productivity Increased sales of improved hybrid seed to meet demand Large business opportunity for expanded agribusiness input and service suppliers 	<ul style="list-style-type: none"> Lack of technical knowhow at production level Inadequate supply of improved planting material Inadequate distribution network to supply productivity enhancing inputs ie seed and 	<ul style="list-style-type: none"> Facilitate industry led extension program involving Seed Association and private sector with vested interest in the activity. Support research centers, state and private seed companies to scale up availability of improved planting material.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
	<ul style="list-style-type: none"> • Intercropping opportunities for additional crops • Introduction of new financial goods and services will expand client base for financial institutions 	<ul style="list-style-type: none"> • fertilizer • Lack of knowhow on how to approach intercropping • Lack of appropriate financial goods and services. Lack of capacity to successfully apply and receive existing loan products research 	<ul style="list-style-type: none"> • Facilitate expansion private sector led input supply in maize producing areas • Demonstrate economic and agronomic benefits of planting rotational crops with maize thro' field demo program • Devise, pilot and scale up new financial products. Collaborate in training of potential applicants in how to apply and comply with loan procedure and process.

I. SESAME EXECUTIVE SUMMARY

Overall Vision and Strategy: Expand production of quality sesame to increase Ethiopia's share in international markets.

The country's national export performance records indicate that sesame is now Ethiopia's second largest agricultural export after coffee in terms of foreign revenue earnings. In 2008/09, 240,000 MT of sesame were exported earning US \$315 million in foreign currency. The largest export market is China, which purchased over half of Ethiopia's sesame exports in 2009. National production estimates for 2008/09 show about 320,000 MT was produced, two-thirds of which was by smallholder farmers and the balance by larger commercial farmers. Continued growth in international demand particularly in the Far Eastern and Middle East markets offers significant growth potential for Ethiopian sesame.

Ethiopian growers have responded to this strong demand. However output growth has been a result of increased areas planted (extensification), which grew by almost 50 percent between 2007 and 2009, with little or no productivity gains achieved over the last ten years. Yields remain static at 7.5 quintals per hectare. AMDe has identified two key areas of intervention in the sesame value chain:

- 1) Expanding production to meet increasing export market demand
- 2) Improving quality and differentiating product to capitalize on market niches

The lack of availability of improved seed in sufficient volumes to meet current farmer demand continues to be a major constraint. It is recommended to work intensively with Ethiopia's primary sesame research centre at Humera, building capacity through focused technical assistance. Increased ability to multiply improved seed for onward distribution to farmers will be the primary objective of this activity.

Considerable yield increases and efficiencies can be achieved through adoption of a combination of improved agronomic practices and better post harvest handling, storage, grading and sorting practices. For example, approximately 25% of the sesame crop is lost post harvest due to inherent characteristics of sesame (shattering, etc.) and inefficient handling practices. Project interventions should collaborate closely with agribusiness organizations such as cooperatives, unions, commercial farmers and traders to address these issues and efficiencies gained in order to scale up these critical points in the value chain. Such agribusinesses, equipped with the means to upgrade and increase the range and quality of services, can offer to their clients or farmer members embedded extension services that can significantly improve both the quality and volume of sesame available for export. The development of selected cooperatives, unions and private sector associations to become key service providers is consistent with the vision in place for similar activities in the other value chains.

Since late 2010, the majority of sesame exported from Ethiopia has been traded over the ECX with the exception of cooperative unions granted licenses to export directly. The ECX gives exporters a number of advantages such as legally binding contracts, warehousing and grading services and a prompt payment system. However not all actors along the value chain appear to be satisfied with the new system, largely as a result of lack of awareness of or misconceptions about the new trading system. During the value chain assessments that informed this work plan, buyers expressed concern about perceived limitations within the ECX in regard to credible grading, handling and storage practices. Lack of traceability was also raised as an issue aggravating the concern that more effort is required to increase buyers' confidence in the ECX system.

The ECX and its exporter clients have the opportunity to enhance communication among actors and increase trust through transparency in relationships. This can be made possible by a more in-depth ECX/buyer/end market stakeholder meeting to guide needed changes in the current situation for the benefit of the entire sector.

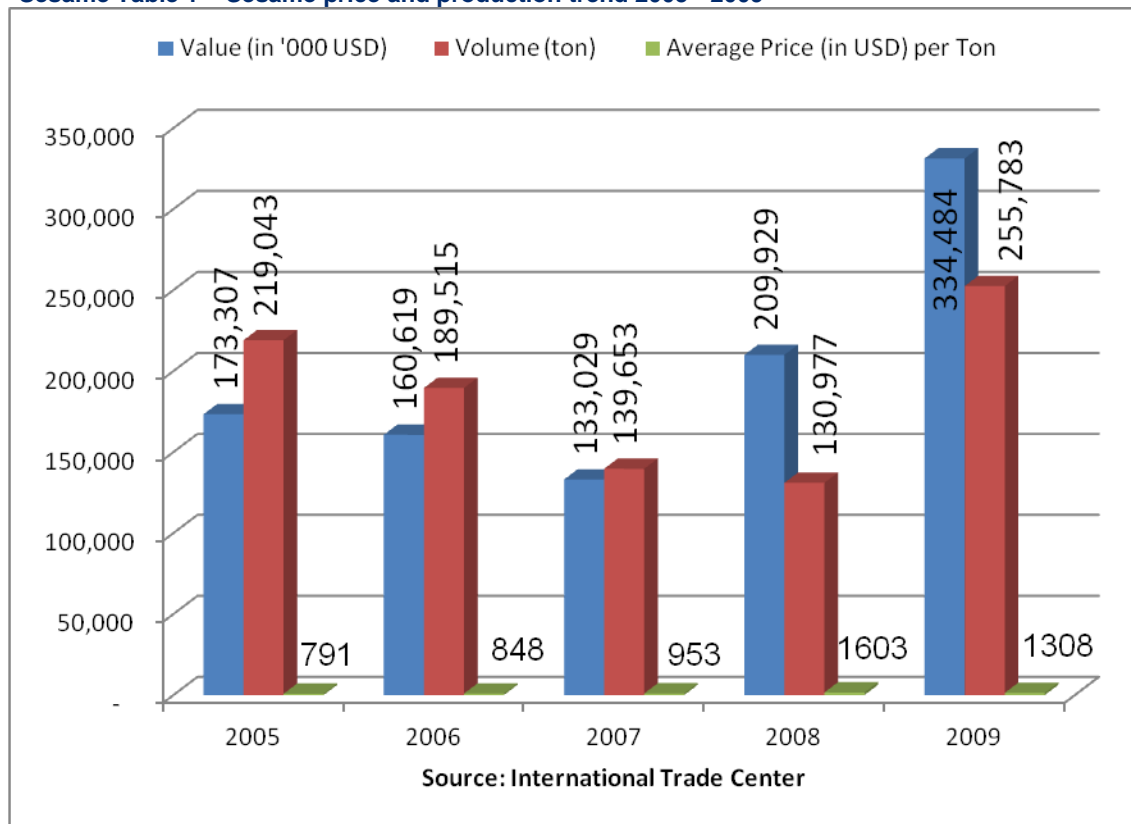
Consultations with both producers and end market buyers revealed that rigorously marketing the image of Ethiopia as a supplier of premium quality sesame has not been fully exploited. Cognizance of this fact it is recommended to work closely with the Ethiopian Pulses, Oilseeds and Spices Processors and Exporters Association (EPOSPEA), to raise the profile of Ethiopia as a leading exporter of consistently high quality sesame. Activities linked to achieving this objective will include strengthening EPOSPEA by assisting implementation of its national road map for the development of the industry, as well as support to the upcoming First International Conference on Oilseeds, Pulses and Spices to be held in Addis Ababa in December 2011. This event is an important early opportunity to showcase Ethiopian sesame to the international audience expected to attend. Similar opportunities will be identified jointly with EPOSPEA, and effective promotion of the industry will be made.

Compliance with organic certification would certainly provide additional high value opportunities. Though not adequately, Ethiopia has, to some extent, established itself on world markets as a source of organic sesame. To entrench this status, well designed marketing and branding activities will be focused upon in collaboration with EPOSPEA. The main objective of this marketing initiative will be confidence building of existing, new and potential buyers who are prepared to pay premium prices for consistently high quality products. Raising the profile of Ethiopian sesame as a 'quality' brand will help to differentiate it from the bulk commodity sold mainly to the second tier markets, and will create better opportunities in tier one markets around the world.

II. SESAME VALUE CHAIN BACKGROUND

The country's national export performance records indicate that sesame is now Ethiopia's second largest agricultural export after coffee in terms of foreign revenue earnings. In 2008/09, 240,000 mt of sesame were exported earning USD 315 million in foreign currency. The largest export market is China which purchased over half of all Ethiopia's sesame exports in 2009. National production estimates for 2008/09 show about 320,000mt was produced, two thirds of which was by small holder farmers and the balance by larger commercial farmers. Approximately eighty percent of all production is exported. Continued growth in international demand particularly in the Far Eastern and Middle East markets offers significant growth potential for Ethiopian sesame. In addition to the significant increases in demand for sesame the world market price per ton has also increased by over 60 % between 2005 and 2011.

Sesame Table 1 – Sesame price and production trend 2005 - 2009



Ethiopian growers have responded well to this strong demand and high sesame prices with sesame production and exports at an all time high. However output growth has been a result of increased areas planted (extensification) which grew by almost 50% between 2007 and 2009 with little or no productivity gains achieved over the last ten years. Output per hectare has remained static at 7.5 quintals per hectare. According to the sesame sector this development presents a threefold problem, shortage of new land for additional plantings, diminishing returns as a result of mono cropping on land repeatedly planted with sesame, labor shortages due to additional manpower required to plant larger areas without any mechanization.

As with the projects other value chains sesame activities will be concentrated in woredas where productivity is currently highest. Existing sesame output per hectare in Ethiopia is low by international standards with highest producing woredas achieving 10 qt/hectare. Productivity should be in the order of 15 qt per hectare if new technologies are adopted. Sesame Table 2 below provides recent production figures.

Sesame Table 2: Production data for AGP Woredas

Sesame	Oromia	Amhara	SNNP	Tigray	Total
Production (Qt)	5,183,230	471,911	0	2,591,615	8,246,756
Area (Ht)	717,642	71,706	0	358,821	1,148,169
Average yield/ha	7	7	0	7	
Maximum yield/ha	10	10	0	9	
Minimum yield/ha	4	6	0	7	
no woredas	34	22	19	8	83
kebeles	927	415	567	119	2028
households	279,454	462,462	431,181	139,727	1,312,824
Population	2,779,323	1,467,572	895,983	912,662	6,055,540

Source: CSA figures

Since late 2010 the majority of sesame exported from Ethiopia has been traded over the ECX with the exception of cooperative unions granted licenses to export directly. However not all value chain actors appear to be satisfied with the new system, largely as a result of lack of awareness and misconception about ECX and its mandate. It is hoped that early misgivings can be addressed so that the real benefits of an entity such as ECX can be realized. This will require a more open management style from ECX and is an area that perhaps the project could intervene as an intermediary to improve industry dialogue.

2.1 END MARKETS

Over 80 % of sesame produced in Ethiopia is exported mainly by private companies. The ten largest exporters will each trade in excess of 10,000 mt with many more handling between 2,000 and 5,000 mt per year. Since late 2010 the majority of exports were mandated to be traded over the ECX with the exception of some cooperative unions granted licenses to export directly.

The ECX presents exporters with a number of advantages such as legally binding contracts, warehousing and grading services and a prompt payment system. It has also been clear in the value chain assessment that there are limitations within ECX on issues related to grading, handling and storage. Lack of traceability was also raised as an issue. It was clear that more effort is required to increase acceptability of ECX mandates by the sesame sector as it is now a permanent and important entity on Ethiopia's commodity landscape.

Consultations with both suppliers and end market players revealed that the benefits of rigorously marketing the image of Ethiopia as a supplier of premium quality sesame have not been fully exploited. The Ethiopian Pulses, Oilseeds and Spices Processors and Exporters Association (EPOSPEA), is the organization within the industry most suitable to assuming the role to raise the profile of Ethiopia as a leading exporter of consistently high quality sesame. Activities linked to achieving this objective should include strengthening EPOSPEA by assisting it's to implement its national road map for the development of the sector. All the major sesame exporters are members of this association. The First International Conference on Oilseeds, Pulses and Spices to be held in Addis Ababa in December 2011 presents an opportunity to showcase Ethiopian sesame to an international audience. EPOSPEA and other major exporters admit that Ethiopia is not supplying the premium/niche markets or achieving the premium prices that it should for its sesame. To address this issue a rebranding of Ethiopian sesame should be embarked upon.

This exercise would require closer collaboration between exporters and growers and traders alike something currently not in place as there is poor communication along the sesame value chain. Ethiopian sesame has an international reputation of being ‘potentially’ top quality, but this is not realized due to inconsistent supply of second grade product. Many exporters maintain the new requirement to export through ECX will make it more difficult to source quality product as they are not supposed to deal directly with producers. ECX should have a grading system in place that allows it provide top grades of product for export but as seen in the coffee sector this not happening at present. The area of quality is a key area that needs to be addressed urgently.

Some end market actors expressed interest in the production of valued added products. Assistance to research and new product development would be worthwhile especially if it provides regional export opportunities for sesame based products such as oil or tahini.

Project activities that contribute to product quality such as improved sorting and grading would be very worthwhile as much of the potential premium to be gained from export markets is lost at this stage.

Unlike most of the other international sesame exporters, in Ethiopia there is relatively little demand for domestic consumption. Distribution is estimated at of 60%-65% for market, 20+% for auto consumption, 10%-12% for replanting and a small percentage for in kind payments for consumer goods or farm labor.

Most of the sesame production (60%-65%) is consolidated at ECX warehouses located in high production regions and Addis. Consolidation occurs largely through cooperatives, and to a lesser degree, private plantations. Some 20% of the production is devoted to replanting, and in-kind payments at the production site(s). Despite an adaptation period currently underway for the ECX, the Exchange will facilitate logistics for a very dynamic value-chain.

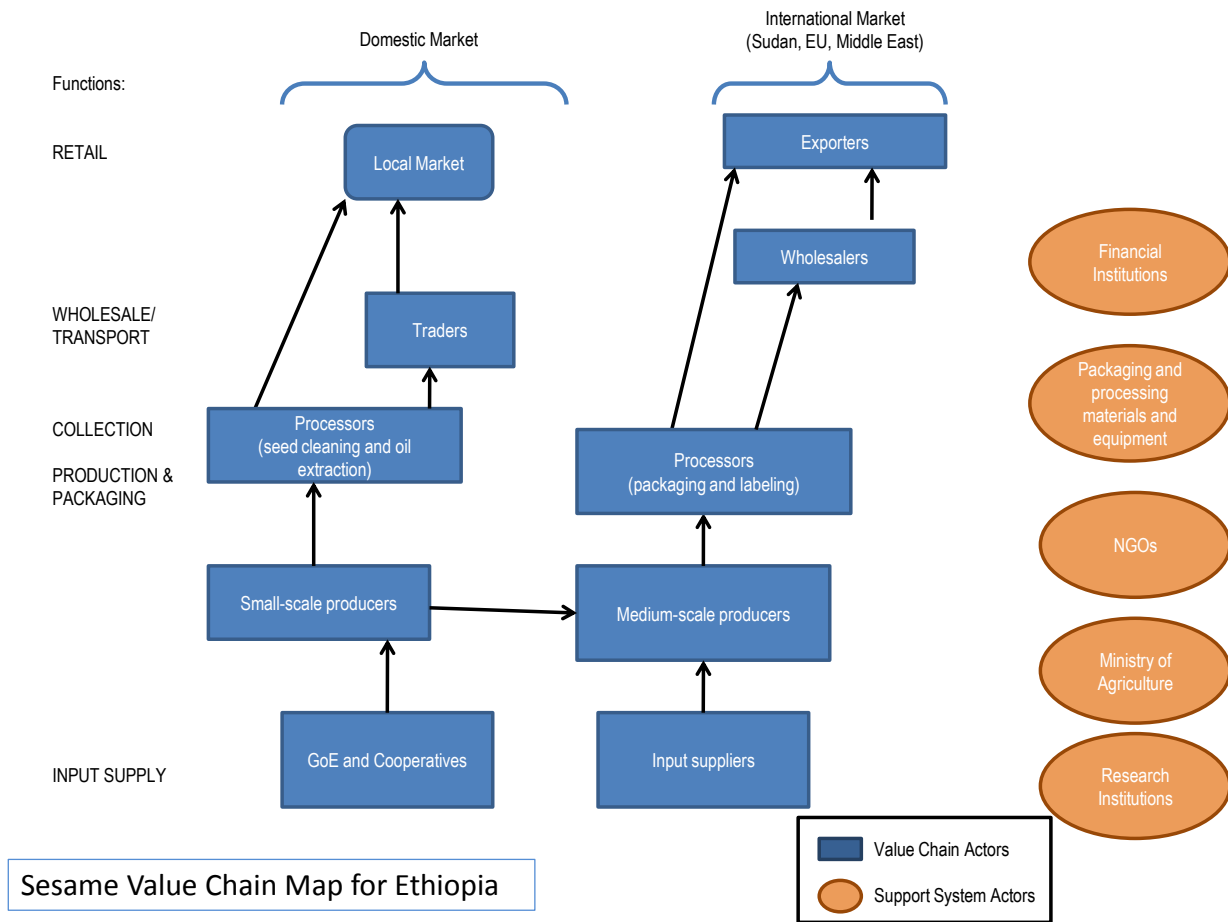
2.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions and the actors are related. The sesame value chain assessment involved meeting with actors from each part of the value chain. The objective of these meetings was to identify and understand their perceptions of their roles within the value chain, the constraints they were operating under, the opportunities that existed and to gauge the levels of involvement with other actors both horizontally and vertically in the sesame value chain. List of categories interviewed:

- End Market actors ie exporters
- Input suppliers
- Farmer Cooperatives / Cooperative Unions / Associations
- Banks and Financial institutions
- Consolidators / wholesalers/ ECX
- Research centers
- Large independent producer(s)

The VC map below provides a placement of actors within the chain and along end market channels. The map is fluid and can, and should be updated on an annual basis.

MAP 1: DETAILED VALUE CHAIN



2.3 VALUE CHAIN PARTICIPANTS AND INTER-FIRM LINKAGES

Using the Value Chain analysis framework requires looking at participants in greater detail; not only who is in the chain and what are they doing, but looking further at the dynamics affecting relationships with the industry. Relationships are important because they can change and be changed. Relationships are also critical as they allow us to understanding how market power is distributed within the VC, how information and knowledge flows, and learning takes place.

2.3.1 PRODUCERS

Sesame production is labor intensive and is grown as a cash crop. Two thirds of Ethiopia’s sesame is produced by smallholders the balance by larger commercial farmers. It is estimated that 600,000 smallholders are involved in the production of sesame. Yields even in higher producing woredas are low by international standards (averaging only 7qt/ht). This is attributed to a combination of poor agronomic practices and poor planting material.

In addition poor post harvest handling practices and lack of adequate storage at farm, community and cooperative levels means that the quality of sesame diminishes quickly after harvest. A substantial and sustained extension program is required to ensure that increased productivity can be achieved. Involvement of buyers in this process may now be complicated as ECX rules forbid buyers dealing directly with growers. Cooperative Unions with licenses to export are another potential party to help address extension issues but the volumes these unions can export is low (less than 10 %). EPOSPA has a vested interest in raising productivity

and improving quality but their capacity to address an issue on this scale is low. Exploring the possibility of creating a PPP arrangement between EPOSPA, sesame producing coops and the district agricultural offices, with EPOSPA seen as the driving force behind delivery of improved extension services is an avenue that AMDe project could explore as a means of addressing the industry wide issues related to the raising the grade of exported sesame.

2.3.2 RESEARCH CENTERS

The value chain assessment identified the importance of enhanced capacity at research level so that it may meet and support the growing demands of the sesame sector. This includes capacity to develop new varieties and also the need to scale up capacity to expand adaptation of field trials, to increase volume of basic seed for multiplication, to increase capacity to certify seed and to develop field demonstrations using applied research. Primary research centers for sesame sector including Humera Agricultural Research Institute and regional research centers have very capable staff but overall there is a disconnect between what the sesame sector requires to progress/facilitate its commercialization and what is currently on offer.

2.3.3 TRADERS/AGGREGATORS

As with other field crops in Ethiopia movement of sesame from the farm gate to the processor involves numerous smaller transactions at local level and fewer larger ones at regional level. One of the areas that could be addressed with traders/aggregators would be training on the merits of improved storage practices and improved sorting and grading methods. Once again this could possibly fall under the auspices of EPOSPA as ideally an initiative of this nature should be industry driven. Collaboration with local agricultural offices should be encouraged as this would add credibility to the exercise since there is considerable mistrust between traders and producers. Little or no attention is given to quality by either traders or brokers, until the end market is willing to pay a price premium for quality there is unlikely to be any change in the current system.

Actors within this portion of the value chain provide significant opportunities through training to raise the quality of produce passed through the chain from farmer/cooperative to processor; however this is unlikely to happen without industry driven incentive schemes in place.

2.3.5 FINANCIAL INSTITUTIONS

While training will help raise traders awareness of how to maintain product quality and integrity, access to finance and availability of storage were cited as key constraints continuing to hinder traders from aggregating larger quantities and shortening transaction times. Initiatives which help alleviate the latter should be given serious consideration. Developing financial products that facilitate and enhance the commodity transaction process have the potential to streamline the flow of commodity along this value chain and it is recommended that options are considered by the project to explore possible solutions. During the assessment process banks and financial institutions were interviewed and there was an openness to develop and trial new products and services some of which could be tailored to suits the needs of the middlemen sector. Warehouse receipt management and development of strategy to introduce this option will require collaboration between banks, suppliers and traders where suitable candidates are present.

In general access to capital was restrained with many organizations utilizing their own resources where possible rather than sourcing credit. Many companies, cooperatives and individuals alike were challenged by the procedures required to obtain loan finance and likewise the financial institutions preferred to deal with clients or potential clients already more comfortable in dealing with loans and of course those with a positive credit rating. Despite the latter, financial institutions were on the whole receptive to developing new products and indicated a willingness to collaborate in training exercises that would build client capacity.

III. SESAME KEY FINDINGS AND RECOMMENDATIONS

The value chain assessment revealed a series of opportunities and constraints across the sesame value chain as summarized below and in sesame table 4. These are divided into three major categories ie producer, aggregator/trader and end market.

Key opportunities discovered in the sesame value chain include the following:

- Expand production to meet increasing export market demand
- Improve quality and differentiate product to capitalize on market niches and attract buyers willing to pay premium prices
- Potential for value-added processing for the domestic and export markets
- Strong demand for improved seed and other inputs offers opportunity for input supply businesses
- Introduce rotation cash crops

Key constraints to the sesame value chain include the following:

- Shortage of improved seeds
- System for multiplication and distribution of improved seed is weak
- Sesame is susceptible to pre- and post-harvest losses (shattering)
- Insufficient crop rotation (depletes soil and causes diminishing returns)
- Adulteration of crop after harvest
- High cost and scarcity of seasonal labor
- Transportation is expensive and scarce
- Poor warehouse management practices and handling technologies
- Storage capacity is inadequate
- Community level (small and commercial farms)
- Primary cooperatives
- Cooperative unions
- Traders
- System for traceability is limited
- Limited dialogue along the value chain

Lack of access to finance at many critical points along the value chain (to purchase inputs, to construct storage facilities, to finance inventory)

It should be noted that there exists minimal dialogue between value chain actors. The end market was largely disinterested in engaging with producers and viewed any engagement as a waste of time and money. During the interview process it was clear that many end market players had rarely engaged with producers and did not appear to be aware of the significant benefits that arise as a result of changing this situation.

Likewise those in the middle ie traders/ aggregators operated in isolation of each other and there is a considerable amount of mistrust amongst the producer category of the middlemen. There exists considerable scope to improve this situation and activities that promote effective vertical communication will result in long term gains for the sector as a whole.

There is very strong export demand for sesame and the outlook for this to continue is positive. Recent changes to mandatory movement of sesame through ECX produced many negative comments in particular from exporters. This should be addressed by ECX as most of the negativity stems from lack of understanding and potential benefits of the new system. Overall the sesame value chain presents significant opportunities for enhanced competitiveness and efficiencies of production.

Yields at producer level, even in more productive woredas are very low and are well below international averages.

International perceptions of Ethiopian sesame have dropped in recent years due to inconsistent quality of product presented for export. Ethiopia now exports engages the bulk of its crop to second tier markets such as China missing out on premiums to be had from tier one markets such as Japan and EU.

Product quality, productivity, extension and raising the international perceptions of sesame are recommended as being the focal areas to be addressed so that the project may achieve its goals and those of AGP and GoE.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> Improved market efficiencies as a result of improved dialogue/understanding Growing demand international markets for traceable product Opportunity to raise the profile of sesame as a quality product in the world market place. This role could be managed by EPOSPEA Stronger ECX relationship with exporters and cooperatives will result in a more competitive sesame sector 	<ul style="list-style-type: none"> Very poor vertical dialogue between value chain actors Limited traceability Lack of quality standards Poor infrastructure in the market place at all levels to meet this opportunity 	<ul style="list-style-type: none"> Promote activities that result in increased dialogue and contact and that build relationships between value chain actors Work with ECX and exporters to put in place systems that improve traceability of product Facilitate training programs that build capacity and knowhow in food science and technology resulting in new and improved value added products Facilitate introduction of grades and standards and introduction of price incentives/premium payments for enhanced quality sesame Work with ECX and key industry partners to promote increased sesame sector understanding of benefits of ECX
Trader/Aggregator	<ul style="list-style-type: none"> Additional crop for sale if losses reduced Additional and improved quality crop for sale if additional storage in place Improved market efficiencies as a result of improved dialogue/ understanding 	<ul style="list-style-type: none"> Significant post harvest losses/including shattering Inadequate storage at all levels of value chain Very poor vertical dialogue between value chain actors 	<ul style="list-style-type: none"> Sponsor training and certification activities of to reduce post harvest losses Facilitate provision of adequate storage facilities at stage of sesame value chain from farmer onwards Promote activities that result in increased dialogue and contact and that build relationships between value chain actors
Producer	<ul style="list-style-type: none"> Potential to increase production and productivity to meet strong international demand Increased sales of improved seed to meet farmers demand for seed 	<ul style="list-style-type: none"> Lack of technical knowhow at production level Inadequate supply of improved planting material Inadequate distribution network to supply 	<ul style="list-style-type: none"> Facilitate industry led extension program involving EPOSPA and private sector with vested interest in the activity Support research centers, state and private seed companies to scale up availability of

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
	<ul style="list-style-type: none"> • Large business opportunity for expanded agribusiness input and service suppliers • Intercropping opportunities for additional crops • Introduction of new financial goods and services will expand client base for financial institutions 	<p>productivity enhancing inputs ie seed and fertilizer</p> <ul style="list-style-type: none"> • Lack of knowhow on how to approach/benefits of intercropping • Lack of appropriate financial goods and services • Lack of capacity to successfully apply and receive existing loan products 	<p>improved planting material</p> <ul style="list-style-type: none"> • Facilitate expansion private sector led input supply in sesame producing areas • Demonstrate economic and agronomic benefits of planting rotational crops with sesame thro' field demo program • Devise, pilot and scale up new financial products • Collaborate in training of potential applicants in how to apply and comply with loan procedure and process

I. COFFEE EXECUTIVE SUMMARY

Overall Vision and Strategy: Maximizing commercial returns for unique Ethiopian coffees in export markets.

Coffee is the country's largest hard currency earning industry. Ethiopia produced 400,000 MT of coffee in 2010/2011, and exported 196,000 MT, representing 3 percent of global exports. Thirty percent of this figure was exported to Germany. Two-thirds of Ethiopia's exports are sundried, and the balance are washed Arabica coffees.

Despite Ethiopia's reputation as being the one of world's top producers of quality coffees, prices received are currently below similar qualities coming from other markets. For example, in 2010 the average price for Ethiopian Yergacheffe 2 was US \$2.60—only US \$ 0.37 above the New York grade 'C' price (i.e., an average quality coffee); whereas similar Rwanda and Kenya coffees were receiving prices that were considerably higher. Likewise in 2010 the category of 'sun dried grade 4-5', representing 55 percent of Ethiopia's exports, was priced at between US \$1.52 and US \$1.92 per pound, whereas other comparable Arabica's were averaging US \$1.95 over the same period. These examples indicate that a large percentage of Ethiopia's fine coffees are being sold at discounted prices.

The main reason for this price discounting is the current lack of confidence amongst international buyers that they will receive the grade of coffee actually paid for. This has been further complicated by the introduction of the ECX, through which over 85 percent of Ethiopia's coffee is now exported. Given the many domestic origins and quality levels of coffee which are recognized internationally, it is a very complex commodity to trade within an exchange. Lack of traceability and poor quality control issues occurring under the ECX's administration has exacerbated the price discounting situation.

Since ECX came to regulate the coffee trade, average quality of exports is declining and damaging Ethiopian coffee image in the international market (~250 million dollar loss). High quality coffee is experiencing the wrong positioning in commodity markets in order to maximize sales through appropriate market channels. Due to this, many importers have substituted top Ethiopian coffees with Kenya AA and other traceable specialty coffees such as Rwanda and Tanzania.

Additionally, the number of exporters has increased causing export margins to decrease. Many of the new exporters rely on side businesses and suppliers/exporters subsidize exports and sell below the ECX purchase price. There is a lack of a central authority to assist and develop efficient regulatory frameworks, strong enforcement capabilities and lack of well organized private sector able to provide public goods such as statistics, market information and other high quality services.

Coffee cooperatives and unions comprised of smallholder farmers represent the vast majority of small landholders and have clear opportunities for taking advantage of higher value markets. Additionally, they have access to direct exports, which represents one of the best opportunities to positively change the coffee value chain. Training, extensions services and access to inputs and basic equipment is necessary to improve the quality of coffee products and cut down on physical losses.

The current enabling environment is over regulated and very complex. A revision of coffee standards and grading system is needed in order to come up with a lean and efficient grading system and to facilitate a consistent and efficient grading of coffee quality. Along these lines, human resources development and

capacity building is needed to increase the level competence of key human resources in the coffee chain such as senior quality controllers in ECX, CLU, exporters and Farmers' Unions.

Several upcoming and unique opportunities to promote Ethiopian coffee will allow exposure and raise stakeholders' awareness on market opportunities for high quality coffee. These include several international competitions and there is opportunity to draw one of the best high quality coffee sampling exercises in many years. Ethiopia has the chance to showcase unique coffees and promote the market image of Ethiopia.

II. COFFEE VALUE CHAIN BACKGROUND

In Ethiopia, at least 90% of the coffee is produced by small farmers who own less than one hectare of farm land. Most of the country's export is consolidated into units of 37,500 pounds of green beans packaged in 20 ft. containers. One single container can hold up to 300 (132 lb) bags of green beans, which in total can represent the aggregated production of more than two hundred coffee farmers. Upon the import of the coffee, the importer will strip the container and distribute the green beans in smaller lots to the roasters.

The total import volume of green into the world's largest coffee market, the United States, amounts to 22.5 million (132 lb) bags. At least 70% of this total volume is roasted and/or distributed by a select group of coffee companies with distribution around the country. e.g. Smuckers, Dunkin Donuts, Starbucks, Green Mountain, Royal Cup, S&D, Boyd's Coffee etc. The U.S. has at least 3,000 roasting companies of which the grand majority (95%) consists of small locally based specialty roasters. These companies generally purchase their green beans in small quantities of up to twenty bags (132 lbs) at a time.

By volume, close to 20% of the global coffee supply chain consists of specialty coffee beans. Nevertheless, the economic opportunities of specialty coffee have caused a proliferation of this industry around the world and as a result, it continues to change the coffee landscape around the world. What started as a niche trend in the early nineties (with the rise of chains like Starbucks) has now become the engine that drives the value supply chain from the cherry to the final beverage.

There is an ongoing trend among coffee buyers to seek direct relationships with coffee farmers and producers. Roasters and importers are aware of the fact that quality starts with the prime ingredient, the coffee cherry. They recognize the importance of establishing a direct relationship with the producer in order to communicate clearly their quality requirements to these key stakeholders in the supply chain. On top of that, specialty roasters seek unique marketing stories, which are indispensable in today's competitive world of differentiated coffees. Obviously, these stories are best told by the farmers and producers. This need for direct relationships makes the role for intermediary players questionable.

Intermediaries usually provide logistical support (aggregating smaller lots into bigger volumes) and often they arrange some type of pre-financing (lending money at excessive interest rates to farmers). If exporters could provide similar and even better services, then the role of intermediaries becomes obsolete.

With the rise of specialty coffee markets, consumers are demanding more differentiated coffee products. The level of differentiation is an expression of the different number of unique product offerings or propositions in a given market. Some examples include:

- Certifications, like: Certified Organic, Fair Trade, Rainforest Alliance and Utz Kapeh.
- Distinct flavor profiles which are caused by product varietal influences, processing practices and by roasting profiles
- Unique stories connected to the people who produce the coffee, like distinct ethnographical or cultural features.

The recent surge in coffee prices levels has created a high level of anxiety throughout the coffee supply chain. Roasting companies are struggling to maintain profit margins, importers and exporters require significantly

higher credit lines in order to pre-finance their inventories. Farmers and producers are obviously better off under the prevalent conditions; e.g. the average Ethiopian farmer received at least 40% more for his product in the crop year 2010/2011 than during the year 2009/2010.

2.1 END MARKETS

Coffee may be purchased in Ethiopia through one of three main channels: exporters, cooperative unions and directly from private estates. Exporters generally purchase their coffee through the Ethiopian Commodities Exchange (ECX). Private estates that hold their own export license may sell and export directly to international buyers.

Since ECX came to regulate the coffee trade the average quality of exports is declining damaging Ethiopian coffee image in the international market signifying a loss of over \$250 million dollars. Additionally, the ECX impacted the positioning of coffee in commodity markets which led to a dominance of . Many importers have substituted top Ethiopian coffees with Kenya AA and other traceable specialty coffees (Rwanda, Tanzania) While the number of exporters has increased,

- Export margins have decreased (US dollars \$ 1-3,000/container)
- Newcomers do side business (imports with 10% of currency allowance from coffee exports)
- Suppliers have the upper hand in the market (access to privileged information; cartel organization; margins of US dollars \$10-15,000 / container)
- Suppliers-exporters subsidize exports (they are selling bellow ECX purchase price)

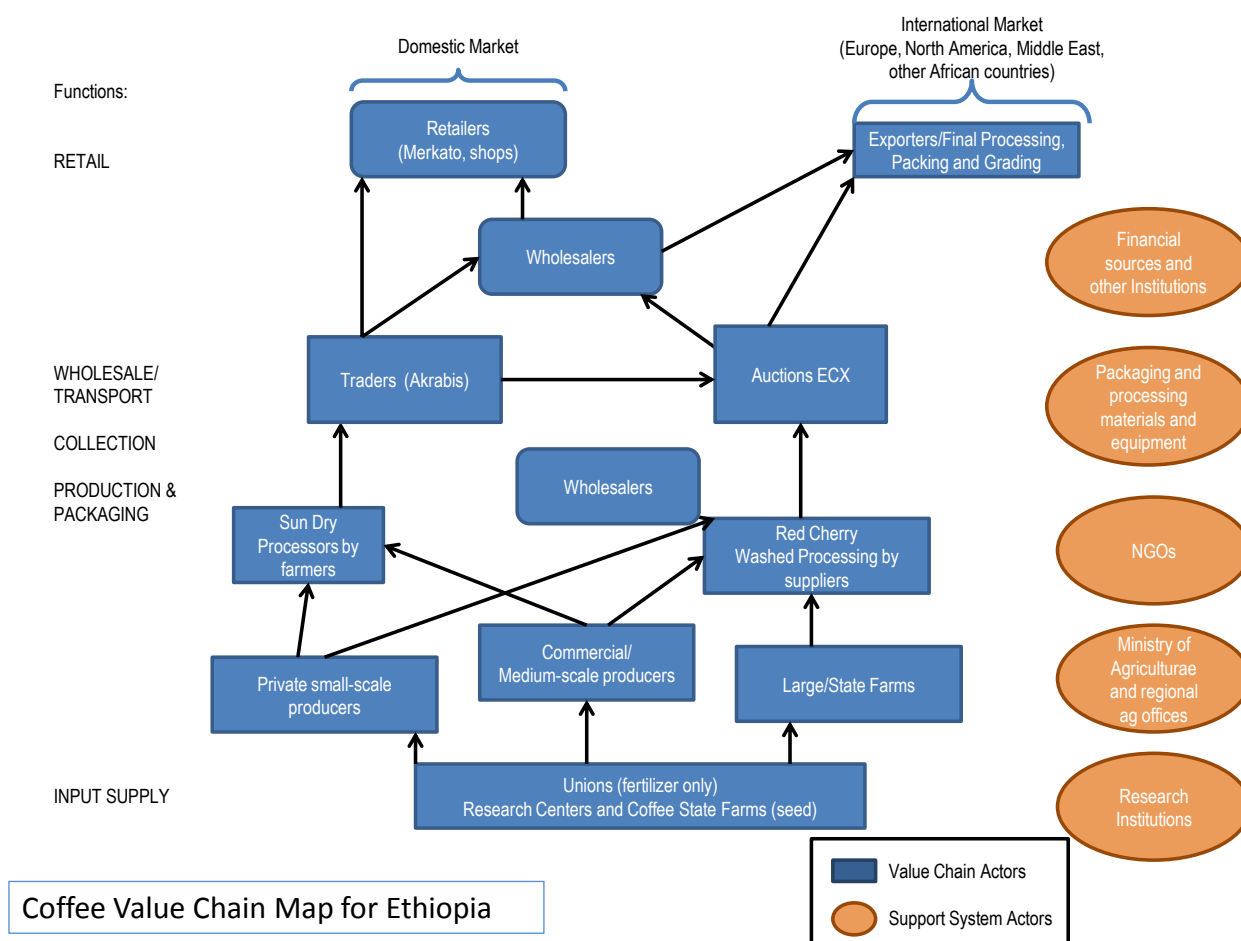
2.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions and actors are linked together throughout the value chain. Traditionally, the global supply chain of coffee has included at least six different types of stakeholders with specific responsibilities for the production, aggregation and distribution of the green coffee product.

- Farmers: The production of the prime ingredient, the coffee cherry.
- Producers: The transformation of the cherry into “parchment coffee”.
- Small Middlemen: Control the aggregation and logistics of the semi-finished product to the exporter.
- Exporters: Convert the parchment coffee into finished product (green, unroasted coffee beans) and quality preparation.
- International Traders (Often multi-national trading companies): Provide international logistics and distribution of green coffee.
- Importers: Provide quality selection and physical import of product.
- Roasters: Convert the green beans into finished product and supplying it's clientele with ongoing deliveries of roasted, packaged product.

The VC map below provides a placement of actors within the chain along end market channels. The map is fluid and can, and should be updated on an annual basis. It was produced following discussions and interviews with stakeholders, including producers, middlemen, exporters and international traders.

MAP 1: DETAILED VALUE CHAIN



2.3 VALUE CHAIN PARTICIPANTS AND INTER-FIRM LINKAGES

Using the Value Chain analysis framework requires looking at participants in greater detail; not only who is in the chain and what are they doing, but looking further at the dynamics affecting relationships with the industry. Relationships are important because they can change and be changed. Relationships are also critical as they allow us to understanding how market power is distributed within the VC, how information and knowledge flows, and learning takes place.

2.3.1 EXPORTERS/ECX

The Ethiopian Commodities Exchange incorporates a trading platform for coffee and as the name implies, it deals in several commodities, not just coffee. The basic function of the ECX is to provide a centralized, standardizing body where agricultural goods and futures can be traded. The ECX was originally designed with commodities like wheat, maize, and haricot beans in mind, with an eye towards helping to stabilize prices and production, get better prices for farmers, and help the agriculture sector function more efficiently.

Coffee was added as one of the crops under the umbrella of the ECX in late 2008, replacing the old “auction system” in Ethiopia. The auction system had been often criticized for being unfair and for leading to misrepresentation and price manipulation of various coffees.

All coffee that enters the ECX is given a grade and a geographical designation. Grades are based on physical inspection of lots and on cupping. 1 is the highest grade, and 9 is the lowest. Geographical designations are given at the “sub-regional” level, more specific than large regions like Harar or Sidama, but less specific than the particular farm, village or woreda level. Once coffee is graded, it is stored at an ECX warehouse to prevent tampering, and coffee is bid on and sold to exporters.

Starting in 2010, under the purview of the ECX, there is also an auction called the Direct Specialty Trade auction, or DST. This auction sells top-quality coffees through a special DST auction platform, but while maintaining the traceability of the lots. So far, very little coffee is sold this way, but it is a potential to grow more influential in the future.

2.3.2 COOPERATIVES/UNIONS

The majorities of farmers in Ethiopia hold land title and produce on very small parcels of land. Over the years, farmers (with the help of the government) have formed local cooperatives and pool their coffee to create lots large enough for export. Usually these primary cooperatives have their own washing or drying station, though sometimes they use that of someone else.

Coffees produced at the cooperative level are not required to pass through the ECX. The cooperatives representing the hands that farmed the coffee are considered owners of their own product, unlike commercial exporters who buy and then sell coffee. However, cooperatives generally work through a cooperative union, which functions as an intermediary between the primary co-ops and international buyers.

The cooperative unions include the Oromia Coffee Farmers Cooperative Union (OCFCU), the Sidama Coffee Farmers Cooperative Union (SCFCU), the Yergacheffe Coffee Farmers Cooperative Union (YCFCU), and the Kafa Forest Coffee Farmers Cooperative Union.

The Oromia Union recently opened a spectacular new processing facility and quality center in the industrial suburbs of Addis Ababa. This largest union of cooperatives has the capability to process in excess of ten thousand tons of green coffee. Coffees that come through the cooperative unions usually have a more specific geographical designation, down to the district or woreda level where the coffee was produced. The Sidama, Yergacheffe and Kafa Unions offer coffees types from the same geographic designations as their name indicates. The Oromia Union offers beans from almost all Ethiopian types due to the extensive area the Oromia Union covers.

2.3.3 Private Growers

The private growers that produce their own coffee are also permitted to sell their coffee directly to the international market, as they too are the owners of their own product (again, not a middleman). However, not many private growers have the corporate infrastructure to effectively export their own coffee. In 2009 and 2010, the great majority of estate holders sold their coffee through the ECX. Coffees supplied through the private growers usually have a very specific geographical designation; from the district or woreda level to the community where the coffee was produced.

2.3.4 SUPPORTING MARKETS/SERVICE PROVIDERS

Supporting markets and chain specific service providers are critical to increase the competitiveness of a value chain. Among the key supporting markets are agricultural extension agents and firms that provide advisory, consulting, and chain specific training and research services. At the producer level, agricultural extension and support services are typically provided by the Ministry of Agriculture. They are providing extension services such as disease control, soil analysis, developing new varieties and fertilization. These services remain limited

and do not cover the farmers' needs. It does provide chemical analysis and testing services required before agricultural processed products are authorized for exports.

Another source of farmer “support” comes from input suppliers that hire agronomists and who go to the field “posing” as consultants advising farmers on soil, crop, production, and disease management issues but who are actually sales people with a slant to promote and sell their employer’s products. While the services are appreciated and are provided free of charge, the advice is not always in the best interest of the farmer. A consequence of this level of service is reducing the incentive and emergence of small private agricultural advisory firms that could provide unbiased support.

The Extension Agents provide data concerning the prices for coffee in the local and export wholesale markets and are responsible for delivery of certificates of origin for Ethiopian products.

The MoA has developed activities related to agricultural extension such as trainings. In addition, for financial reasons and lack of human resources, the EA’s have been unable to provide technical assistance to cover the needs of Ethiopian farmers however under AGP have increased the amount of human resources and have plans to roll out increase services. While universities that have agricultural departments they still play a minor role in providing field- level services. Some universities are equipped with laboratories and have partnered with nonprofit organizations, private companies and other institutions for joint projects.

Consulting firms and training institutions that focus on the agricultural sector are rare, particularly in AGP targeted woredas. Regardless of that factor, VC analysis generally does not consider horizontal relations among support markets as being strategic; improving the relations within this group of services who actually never own the product has little effect on the competitiveness of the VC. However there remains a strong need to increase the supporting markets and service providers in the areas of technical expertise, human resources development and financial support.

III. COFFEE KEY FINDINGS AND RECOMMENDATIONS

The key opportunities discovered in the coffee value chain include the following:

- Deficit in international markets of high quality coffees due to:
- Increased labor costs
- Global warming and climate change
- Increased use of HYV and pest/disease resistant varieties with lower cup quality in main coffee producing countries (Brazil, Colombia, Costa Rica, etc.)
- High potential in the niche markets of Arab countries, Scandinavia, North America and East Asia
- Strong demand in traditional regional markets
- Small but increasing demand of Ethiopian roast coffee

The key constraints discovered in the coffee value chain include the following:

- Smallholder farmers are risk averse and reluctant to move from subsistence to commercial coffee production
- Limited access to inputs and extension services are underdeveloped
- Traders (akrabis) have accumulated bargaining power and do not pass price incentives to the growers
- Quality control system is not efficient, transparent and not reliable
- Difficult to access good quality packing materials
- Customs information does not consistently track coffee quality by destinations (what quality goes where?)
- Existing market channels limit opportunities for direct export sales and do not support traceability
- Coffee diseases such as wilt and CBD are threats to the Ethiopian coffee sector
- Lack of access to finance at many critical points along the value chain (to purchase inputs, construct storage facilities and finance inventory)
- Dependence on coffee revenue and currency has led to an over regulated sector
- Lack of a central coffee authority and a long-term strategy for the industry
- Extension services are limited
- Research and existing extension services are not interconnected

- Sale of coffee seedlings by individuals puts coffee production at risk due to lack of source determination and risk of disease
- Coffee prices at primary market are not based on quality therefore no price differentiation

The major constraints in the coffee value chain include: low productivity at the farm level, lagging quality levels of domestically traded and exported coffees, lack of traceability to local origin (which is a requirement for specialty market coffees), lack of regional flavor profiling, and the lack of a tracking system to link quality levels to volumes of coffees sold to export markets.

One of the largest findings for the coffee value chain was the lack of standards, grading system, and cupping skills (ECX) which can be vastly improved upon. The current enabling environment is over regulated and very complex. It is recommended that there be a thorough revision of coffee standards and grading systems to come up with a lean and efficient grading system to facilitate a consistent and efficient grading of coffee quality. Along these lines, several training courses should be designed to increase the level of competence of key human resources in the coffee chain (senior quality controllers in ECX, CLU, exporters and Farmers' Unions).

Another key finding was the lack of marketing and promotion for high quality coffee produced in Ethiopia. Based on the unique opportunity EAFCA Conference presents Ethiopia with, activities should be developed to raise stakeholders' awareness on market opportunities for high quality coffee. Additionally, if Ethiopia is able to rank in a couple of international competitions such as Taste of Harvest and Arabica Naturals, a collaborative effort can be developed to showcase unique coffees and promote the market image of coffee from Ethiopia.

The following is a list of key recommendations for the coffee value chain:

- Improvement of regulatory framework and Ethiopian standards and grading system for coffee
- Develop regional flavor profiling for niche markets and price discovery
- Capacity building of cooperatives and extension agents
- Upgrading of extension services
- Training, certification and calibration of cuppers
- Institutional strengthening
- Evaluation of ECX price performance
- Upgrading of labs
- Development of public goods (ECEA, ECGPEA)
- Strengthening of best business models and trade channels
- Farmers' Cooperative Unions (direct exports)
- Exporters drivers (innovation, positioning, quality oriented businesses)

The specific interventions which should be prioritized and addressed by project interventions to add value to domestic and export coffee include:

- Intensify the Q program, including a calibration and training program for cuppers/graders and establishing a database of Q Graders
- Extension training to improve output and quality in the production areas, establishment of a regional flavor profiling system which will give greater identity to (and therefore demand for) Ethiopian coffees
- Establish modalities for traceability that will accommodate the ECX Direct Trade system and create access for cooperative unions and plantations to the specialty coffee markets
- Structure an information system which captures customs data related to the quality, quantity and origin of coffees shipped to specific country destinations
- Laboratory certification, which will ensure compliance with international standards
- Initiate an impact assessment of Q coffee to determine if buyers are capturing premiums within their markets for the Q designation
- Develop a farmer-friendly database that captures domestic and international trends, quality levels, moisture levels, etc.
- Develop standards for unwashed/natural coffees, for which there is increasing demand within the specialty coffee markets
- Develop a demand forecasting system to enable producers, processors and exporters to make informed decisions related to production planning, product segmentation, and pricing

A large amount of support should be for a range of marketing activities which raise the profile of Ethiopian coffee in the international specialty market. Beginning with the ‘Taste of Harvest’ and ‘Arabica Naturals’ competitions, The aim will be to showcase unique Ethiopian coffees to international buyers.

Additionally, there is opportunity to support women in the coffee sector, enabling them to increase their contribution as coffee producers, processors, exporters and business service providers as well as to work to increase the number of women Q cuppers in Ethiopia. Women often out-perform men in this role but are rarely given the opportunity to participate.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> • Private sector interest in niche and organic coffee investment • Growing demand international markets for traceable product • Opportunity to raise the profile of coffee as a quality Ethiopian product in the world market place. • Stronger ECX relationship with exporters and cooperatives will result in a more competitive coffee sector 	<ul style="list-style-type: none"> • Very poor vertical dialogue between value chain actors • Shortage of coffee supply to meet demand • Lack of quality standards and traceability • Lack of market intelligence 	<ul style="list-style-type: none"> • Improvement of regulatory framework in order to facilitate growth in export markets. • Evaluate pricing performance in collaboration with ECX • Development of regional profiling for niche markets and price discovery • Development of market information platform and dissemination • Strengthen best business models and trade channels
Trader/ Processor	<ul style="list-style-type: none"> • Additional crop for sale if losses reduced • Additional and improved quality crop for sale if additional storage in place • Improved market efficiencies as a result of improved dialogue/ understanding • Support ECX in cupping and calibration courses 	<ul style="list-style-type: none"> • Abuse of bargaining power by traders • Inadequate storage at all levels of value chain • Very poor vertical dialogue between value chain actors 	<ul style="list-style-type: none"> • Sponsor training and certification activities for cuppers • Development of cooperative unions for direct export • Upgrading of laboratories • Development of washing, drying and bulking services • Development of packaging suppliers to improve availability and quality of packaging material
Producer	<ul style="list-style-type: none"> • Potential to increase production and productivity to meet strong international demand • Increased seed quality and variety • Large business opportunity for expanded agribusiness input and service suppliers • Introduction of new financial goods and services will expand client base for financial institutions 	<ul style="list-style-type: none"> • Limited access to inputs • Underdeveloped extension services • Lack of technical knowhow at production level • Inadequate supply of improved seed and varieties • Lack of appropriate financial goods and services 	<ul style="list-style-type: none"> • Support extension agents to provides training on Best Agricultural Practices • Demonstrate economic and agronomic benefits of planting rotational crops with sesame thro' field demo program • Devise, pilot and scale up new financial products • Collaborate in training of potential applicants in how to apply and comply with loan procedure and process

I. HONEY EXECUTIVE SUMMARY

Overall Vision and Strategy: Increase the volume of quality honey and honey by-products for the domestic and export markets.

Ethiopia is Africa's largest producer of honey and ninth in the world, with more than five million bee colonies. The national estimate for honey production is approximately 40,000 MT (2010). About 10 percent of honey produced is consumed at home and 80 percent goes to the tej sector. Formal honey exports for 2010 were just 120 MT; the volume of informal exports is unknown but is estimated to be in excess of 1,000 MT per annum. Beeswax is an important byproduct of the honey sector, making Ethiopia the fourth largest producer in the world with annual production at approximately 400 MT.

The sector offers three main business opportunities in Ethiopia; 1) growing demand in the domestic and export markets provides expanded production and processing opportunities; 2) niche market buyers are willing to pay higher prices for improved quality and differentiated products; and 3) scaling up is possible for organized women and youth groups and entrepreneurs engaged in honey production and marketing.

There are currently no regulations, guidelines or standards associated with honey production for the local market and as the market is an undiscerning consumer, there has until recently been little incentive to address issues related to quality. However, a fledgling export business for top quality organic honey and a growing local market for superior quality table honey (4,000 kg per month) have the potential to raise the profile of the Ethiopian honey sector, transforming it from a traditional low quality sector to a high value export-oriented one.

Ethiopia has yet to establish itself in world markets as a preferred source of organic honey. Honey beekeepers need training to comply with organic and fair trade certifications, and other higher value opportunities. In collaboration with AGP, training events will be held to promote the supply and adoption of appropriate technology and inputs – particularly to comply with the high-end market requirements. Buyers will be recruited to provide much of the training curriculum based on niche end market product specifications. Training topics will include bee colony rearing, collection and post-harvest handling, storage, multiplication and distribution of forage crops to facilitate continuous production throughout the year, and the benefits of integrating fruit trees (an additional source of bee forage) that also become cash crops. In addition, microfinance institutions will be encouraged to provide credit for the purchase of modern beehives, bee colonies and the implements associated with bee keeping.

The Ethiopian honey sector offers significant opportunities for women, as women have traditionally assumed the role of beekeepers. Beekeeping is regarded as an 'off-farm' activity not requiring additional land on which to establish bee colonies; thus facilitating the erection of new beehives. Well managed bee colonies are an excellent source of additional household income, which usually remains within the domain of the female actors managing the activity.

II. HONEY VALUE CHAIN BACKGROUND

Extensive value chain reports and projects have already been written and implemented in Ethiopia. Therefore this section includes brief summaries and focuses more on opportunities, constraints and suggested project interventions.

In Ethiopia, over 95% of Ethiopia's beekeepers use traditional techniques where hives are made of hollow logs hanging in trees or kept in a shed and crude processing methods are used. The yield of a traditional beehive ranges from 5-9kg depending on flower availability. Honey in Ethiopia is harvested in October, April/May and June/July. The October honey is considered to have the highest quality and can sell for a higher price, April honey is considered to be average in quality and June/July honey is considered low quality.

The majority of honey produced in Ethiopia is sold to consumers in the local market and collectors/traders who buy and sell to traders coming from neighboring towns. The traders also sell honey to local consumers or sell in other markets such as Addis Ababa where brokers or commission agents play a crucial role. In other regions like SNNPR, Amhara and Tigray regions, honey marketing cooperatives have stake in the value chain. The Oromia regional state produces about 41% of total national honey production followed by SNNPR and Amhara regions contributing about 22%, and 21% of the national production respectively.

Honey and bees-wax are the two main products generated by the bee-keeping subsector. Over \$1M tons of honey is traded worldwide and where Ethiopia is the largest producing country in Africa. Several African countries, including Ethiopia, are major producers of honey however the majority of the product is not exported due to poor quality. Aside from crude honey and crude wax, processing of honey can make liquid honey such as that used in candles or table honey. Honey can also be processed for products such as cereals, cakes, jams and in beauty products. However currently in Ethiopia the majority of honey is sold in the crude form and collectors/suppliers are in charge of any sort of processing requirements. Poor quality of honey and lack of meeting international standards and requirements limits the export of honey.

There is little incentive for honey producers and traders to produce high quality honey due to lack of marketing information and lack of domestic demand for processed honey. There is also limited marketing of honey products and increased promotion can increase the demand for table honey. With increase demand, honey producers and processors can invest in improvements in the value chain such as processing equipment, packaging and labeling. Additionally, there is a lack of technical know-how on bee-hive management and harvesting techniques. However there is a high availability of bee colonies and high potential for profit margin with investment into upgrading the honey value chain production and processing.

The beekeeping, honey and by-product industry has benefited from modernization through partnerships with INGO's, international honey associations, and the creation of forward-looking Ethiopian groups [Ethiopian Honey & Beeswax Producers & Exporters Association (EHBPEA)].

The unique bee forage of Ethiopia provides a particular market niche world-wide given the unique flavors and tastes of Ethiopian honey. It should be noted that climate change and deforestation is diminishing this commercial advantage. Mitigating these environmental pressures should be part of the overall marketing campaign, AMD interventions, and identifying the most strategic for the value chain to be competitive (efficiency, product or operational differentiation and untapped markets or demand).

2.1 END MARKETS

Production estimates for honey in Ethiopia were recorded as were 41,000 MT associated with an estimated value of \$102,103,000 (FAO 2009). Less than 10% of Ethiopian honey is marketed outside of local distribution channels. Local consumption includes the production of a widely consumed drink, Tej, (honey wine) as well as use in local confectionery products and medicinal purposes. Increasingly, various grades and places of origin are being marketed in urban centers.¹

Given the modest level of exportation of honey (274 MT according the FAOSTAT 2009) or even of the higher unit priced beeswax (360 MT), the significant end market remains honey wine/mead. Nonetheless, developing international quality table honey remains a potential niche market as do beeswax and other by-products (pollen, propolis, Royal jelly, venom, packed bees).² Ethiopia has been granted the right to participate in the Norwegian market, and it is anticipated that these licenses will extend to the core EU countries ³

Several professional associations are active in promoting value added activities for up-scale domestic markets and export.⁴ This initiative is also promoting value chain relations between honey exporters and women entrepreneur groups. This tendency has been encouraged by the growing use of more easily managed and sited improved hives that facilitate the physical and cultural participation of women in the honey production process.

In addition to honey itself, by products (in particular beeswax) are being promoted and commercialized. Documentation indicates that Ethiopia is currently among the top 9 beeswax exporting countries world-wide and 1st in African honey production. ⁵

Concerning beeswax and other honey-related products, the trend is for more international demand and increasing prices. However, given the very small percentage of honey made available for commercialization by producers, honey value chain development should be developed incrementally, taking into account an estimated production in 2009-2010 of 40,000 to 44,000 MT of honey respectively and exports of only approximately 300 MT each year. It seems clear that consumer preferences are ingrained and will require a systematic and extended period to make serious changes.

International niche markets will require close monitoring of consumer trends to continue to be competitive. Talking with Haile Giorgis Demissie, General Manager of Beza Mar Agro-Industry, it is clear that his company and Association is applying solid market-based principles to following international trends in honey and honey-related product development.

To date, there are few honey grades or standards within Ethiopia. Domestically, there are up to five informal grades, largely based on the color of the honey. Understandably, there are extensive grading and phytosanitary criteria for export marketing. The Ethiopian honey associations have done a very professional job formalizing the applications and approvals for residue and quality testing in new international markets.

Given the very modest export quantities and the professional honey and honey by-product associations, logistical issues are limited. However, the up-scale specialized honey niche market requires appropriate packaging (i.e. jars and labels). The packaging, labeling, branding issues are critical to break into assertive marketing for Africa, and internationally.

¹ Oxfam, "Engaging Smallholders in Value Chains", Creating opportunities for beekeepers in Ethiopia.

² Integrated Value Chain Analyses for Honey and Beeswax Production in Ethiopia and Prospects for Exports, The Netherlands Development Organization (SNV)

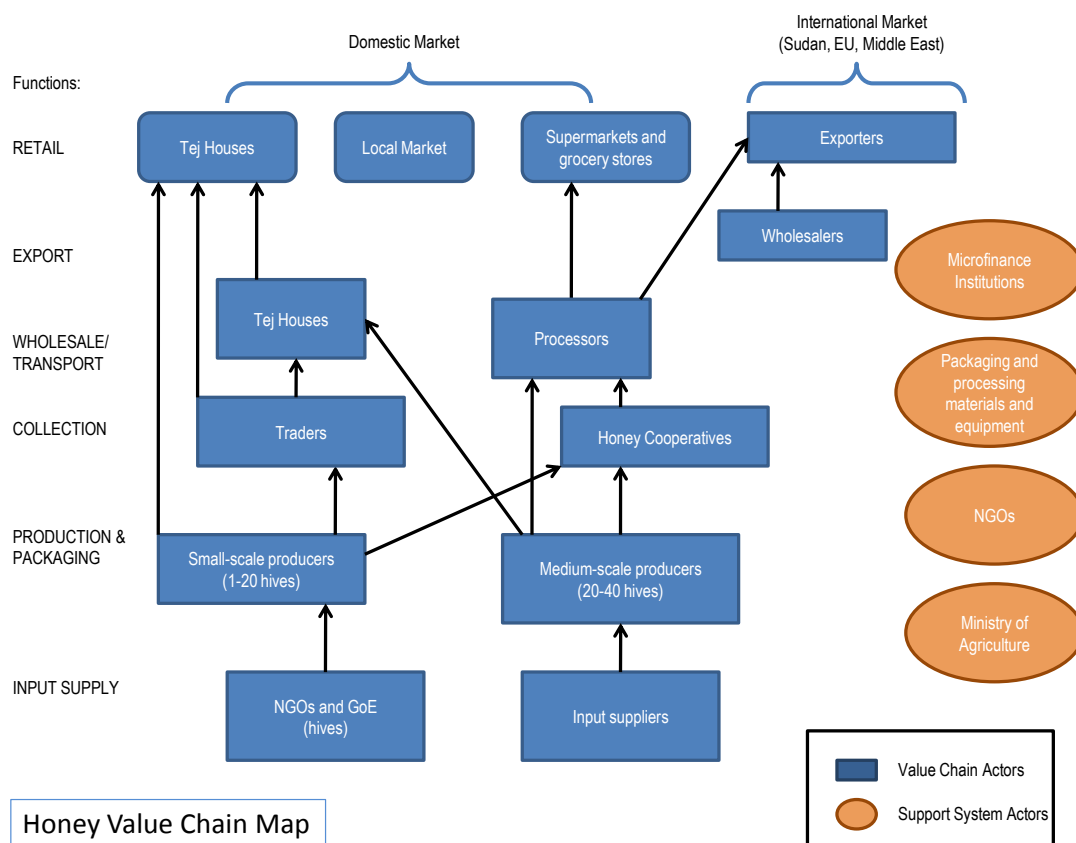
2.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions. Traditionally, the global supply chain of honey has included at least five different types of stakeholders with specific responsibilities for the production, aggregation and distribution of the honey or beeswax product.

- Producers: small and medium-scale beekeepers
- Cooperatives (Collectors)/Traders: Responsible for aggregating the supply of honey from various beekeepers
- Processors: Processing and marketing of honey
- Tej houses: Purchase and distribution of tej (honey wine)
- Exporters: Packaging and labeling for sale
- Retail markets: Local and export markets

The VC map below provides a placement of actors within the chain and their relative size (numerically) along end market channels. The map is fluid and can, and should be updated on an annual basis.

MAP 2: Detailed Value Chain



2.3 VALUE CHAIN PARTICIPANTS AND INTER-FIRM LINKAGES

Using the Value Chain analysis framework requires looking at participants in greater detail; not only who is in the chain and what are they doing, but looking further at the dynamics affecting relationships with the industry. Relationships are important because they can change and be changed. Relationships are also critical as they allow us to understanding how market power is distributed within the VC, how information and knowledge flows, and learning takes place.

2.3.1 EXPORTERS

Ethiopia is Africa's leading producer of honey and the 4th largest producer of beeswax in the world. Beekeeping has been practiced for centuries but the sector is still underdeveloped because small-scale farmers don't have modern technologies and lack access international markets. Therefore most of the produce (honey and honeycomb) is either traded informally or used in the production of Tej, a popular Ethiopian honey wine. Beeswax, however, is a key export product and some private investors have established processing and packaging plants. Exporters have the opportunity to invest in modern technologies to improve production and apiary management, processing of honey and beeswax and lastly the marketing of Ethiopian honey internationally. Despite the high potential for export, particularly niche table honey and beeswax, a major shift would need to happen to not only increase production to meet demand but also for processors to obtain the ability to produce processed honey and beeswax suitable for international standards. Ethiopian Honey and Beeswax Producers and Exporters Association (EHBPEA) currently plays the largest role when it comes to export from Ethiopia however could benefit from capacity building, technical assistance and funding.

2.3.2 COOPERATIVES/UNIONS

Beekeepers gain an advantage by being part of a cooperative or union as they have access to supplies, training, self-help groups, collection centers and have greater potential for contracted sales. Gender plays an important role as well as many women are involved in bee keeping and have joined cooperatives and unions. As many of the women engaged in bee keeping are illiterate, lack business skills and have difficulty traveling long distances to sell their products, the cooperatives and unions play a very important role. Many of these groups are providing technical training on modern hive best practices and post-harvest management as well as engaging women in senior management roles. Through these cooperatives and unions women also can gain access to credit in order to enhance their bee keeping operations.

III. HONEY KEY FINDINGS AND RECOMMENDATIONS

The key opportunities discovered for the honey value chain in Ethiopia were the following:

- Demand in domestic and export markets exists to allow for expanded production and processing
- Niche market buyers are willing to pay higher prices for improved quality and differentiated product
- Scaling up of organized women groups and entrepreneurs engaged in honey production and marketing
- Potential for value-added processing for the domestic and export markets
- Bees wax
 - Royal jelly
 - Propolis
 - Bee pollen
 - Bee venom
- Nursery operations to produce specialized forage (flora) to increase production and produce value-added honey
- Enterprise opportunities to construct hives and hive-care tools
- Opportunities for production of protective clothing
- Basic organizational and institutional infrastructure exists to expand production (Ethiopian Apiculture Board, Holota Research Center, Jarry Research Center, Ethiopian Honey Processors and Exporters Association and Kaffa Honey Union, etc.)

The following are the key constraints discovered in the honey value chain:

- Inefficient traditional methods dominate the sector
- Shortage of bee colonies
- Inadequate supply of transitional and modern hives and accessories
- Significant losses due to poor harvest and handling techniques
- Adulteration and mixing of varieties of crop after harvest diminishes the value and product reputation
- Tej market is indifferent to honey quality
- Lack of processing equipment
- Lack of packaging materials
- Existing market channels do not support traceability
- Lack of standards means there are no guidelines for production of honey

- Lack of access to finance at many critical points along the value chain (to purchase inputs, to construct storage facilities, to finance inventory)

Suggested interventions for product upgrading include the following:

- Coordinate with development partners (SNV, Oxfam GB, SOS Sahel, Action Aid, etc.) who are supporting new technology promotion
- Promote quality standards and guidelines to establish quality parameters for the production, processing and product differentiation of honey
- Improved packaging and labeling will create niche market opportunities for table honey in the domestic and export market

Additional findings suggest that technical assistance should be provided to key institutions to develop and implement business and strategic plans to map out the growth of the honey sector. Market research should be carried out on a continuous basis to identify appropriate market channels. Support should be given to the Honey Proclamation to ensure the document is acted upon and meets the needs of the honey value chain sector.

In terms of marketing of honey products, marketing campaigns need to be developed in order to raise the profile of high quality Ethiopian honey not only in domestic but export markets as well. Additionally, campaigns for nutritional and medical value of honey can be developed. Attendance and visibility in international trade fairs can increase the profile of quality Ethiopian honey as well. Suggested marketing interventions include the following:

- Provide international market information to enhance export opportunities
- Promote Ethiopian honey to new and more profitable markets
- Provide market information and dissemination platforms
- Create dialogue platform for business partnerships
- Reduce transport bottlenecks through improved aggregation
- Work with packaging suppliers to improve availability and quality of appropriate packaging products and materials
- Develop market services such as outgrower arrangements
- Support the development of new and existing primary markets to respond to secondary market needs and promote greater information sharing between these actors

There is a need for the transformation of cooperatives and private agro-dealers to become full service providers through capacity building in both human resources and improved best practices. As with the other value chains, training is recommended for cooperatives and agro-dealers on the value of recruitment and retainment of capable management. It was found that many cooperatives are in need of financial and IT skills training as well as training on gender. It is recommended to promote increased use of improved technologies through field demonstration packages, bee colony rearing, sales of modern and transitory hives and to provide technical assistance on collection and post-harvest handling. Additional assistance is needed in storage, packaging and access to credit for individual smallholder beekeepers.

In order for Ethiopian honey products to gain new opportunities, the agro-processors need to identify and develop new products per end market demand. Introduction of new technology and equipment is key to take advantage of these opportunities. Training is necessary on HACCP and ISO as well as food technology in order for the producers and agro-dealers to meet the requirements of the end market. The development of new and innovative loan products can address the constraint of access to finance and credit in the honey value chain.

Women play an important role in the production of honey. Recommended activities to support gender in the honey value chain include the following:

- Focused support for women to increase their contribution as honey producers, processor, exporters, business service providers
- Increased access to credit, technology and training
- Gender awareness training for honey stakeholders

In summary, key recommendations for project interventions include support for product upgrading, working specifically to:

- Support modernization of the traditional practice of raising bees and harvesting honey to improve quality of the produce
- Promote the establishment of standards and guidelines helping to establish quality parameters for the production, processing and product differentiation of honey
- Improve market linkages and networks for consolidation, packaging and labeling to enhance niche market opportunities for table honey in both domestic and export markets
- Conduct on-going market research to verify appropriate and lucrative long-term markets for exports
- Assist the development of marketing campaigns to raise the profile of high quality Ethiopian honey in both domestic and international markets
- Provide technical and financial support to the development of nutritional awareness campaigns to increase demand for high quality honey at home and abroad
- Promote visible presence in international trade fairs in order to increase the profile of quality Ethiopian honey products

Key partners identified to help upgrade the honey value chain in Ethiopia are the Ethiopian Honey Processors and Exporters Association (EHPEA) and federal and regional agriculture boards.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> • Demand in domestic and export markets exists to allow for expanded production and processing • Niche market buyers are willing to pay higher prices for improved quality and differentiated product 	<ul style="list-style-type: none"> • Lack of experience in accessing international markets • Existing market channels do not support traceability • Lack of standards means there are no guidelines for production of honey 	<ul style="list-style-type: none"> • Provide international market information to enhance export opportunities • Promote Ethiopian honey to new and more profitable markets • Provide market information and dissemination platforms • Create dialogue platform for business partnerships • Support the development of new and existing primary markets to respond to secondary market needs and promote greater information sharing between these actors
Producer/Processing	<ul style="list-style-type: none"> • Nursery operations to produce specialized forage (flora) to increase production and produce value-added honey • Scaling up of organized women groups and entrepreneurs engaged in honey production and marketing • Potential for value-added processing for the domestic and export markets <ul style="list-style-type: none"> • Bees wax • Royal jelly • Propolis • Bee pollen • Bee venom 	<ul style="list-style-type: none"> • Shortage of bee colonies • Inadequate supply of transitional and modern hives and accessories • Significant losses due to poor harvest and handling techniques • Adulteration and mixing of varieties of crop after harvest diminishes the value and product reputation 	<ul style="list-style-type: none"> • Promote Increased Use of Improved Technologies • Field demonstration packages in collaboration with AGP • Bee colony rearing to meet the demands for expanded production • Sales of modern and transitory hives and accessories • Multiply and distribute forage crops to facilitate continuous production throughout the year • Facilitate or provide access to credit (microfinance and SACCOs) to individual smallholder beekeepers • Collection and post-harvest handling advice • Storage service provision • Integrate fruit trees for crop diversification, cash crops and nutritional benefits

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
Support Markets (SM)	<ul style="list-style-type: none"> • Scaling up of organized women groups and entrepreneurs engaged in honey production and marketing • Potential for value-added processing for the domestic and export markets • Nursery operations to produce specialized forage (flora) to increase production and produce value-added honey • Enterprise opportunities to construct hives and hive-care tools • Opportunities for production of protective clothing • Basic organizational and institutional infrastructure exists to expand production (Ethiopian Apiculture Board, Holota Research Center, Jarry Research Center, Ethiopian Honey Processors and Exporters Association and Kaffa Honey Union, etc.) 	<ul style="list-style-type: none"> • Lack of processing equipment • Lack of packaging materials • Existing market channels do not support traceability • Lack of standards means there are no guidelines for production of honey 	<p>Transform cooperatives, private agrodealers and honey collectors/dealers to become full-service providers through:</p> <ul style="list-style-type: none"> • Promote Increased Use of Improved Technologies • Field demonstration packages in collaboration with AGP • Bee colony rearing to meet the demands for expanded production • Sales of modern and transitory hives and accessories • Multiply and distribute forage crops to facilitate continuous production throughout the year • Facilitate or provide access to credit (microfinance and SACCOs) to individual smallholder beekeepers • Collection and post-harvest handling advice • Storage service provision • Integrate fruit trees for crop diversification, cash crops and nutritional benefits

I. BEANS/PULSES EXECUTIVE SUMMARY

Overall Vision and Strategy: Expand domestic and export market opportunities for producer groups, processors and exporters.

Beans and pulses are widely produced crops within Ethiopia and are important as a cash crop, an export commodity and for human nutrition. Twelve pulse species are grown in the country. Of these, fava bean, field pea, chickpea, lentil, grass pea, fenu greek and lupine are grown in the cooler highlands. Haricot bean, soya bean, cowpea, pigeon pea and mung beans are predominantly grown in the warmer and lowland parts of the country. Among the individual varieties, fava bean (known as horse beans) accounts for the greatest portion of production at 36 percent, followed by haricot beans (17 percent) and chickpeas (16 percent). Other pulses (e.g., lentils, peas, lupines and mung beans) account for the remaining 32 percent (IFPRI, 2010).

While pulses are grown throughout the country, and account for about 13 percent of cropped land area, production is concentrated in the Amhara and Oromia regions, which together account for 92 percent of chickpea, 85 percent of fava bean, 79 percent of haricot bean and 79 percent of field pea production.

Beans and pulses are a very important part of Ethiopia's agriculture sector because they contribute to the protein intake in the majority of households. They also generate additional income for smallholders both in terms of diversification and from the higher gross margin they yield than cereals. Beans and pulses increase soil fertility and help increase farmland productivity and mitigate environmental degradation. In terms of foreign trade, pulses are the third-largest export crop for Ethiopia, behind coffee and oilseeds, representing a US \$90 million export industry (IFPRI, 2010).

Globally, the country is one of the top ten producers of pulses in the world, the second-largest producer of fava beans after China, and the sixth largest producer of chickpeas. Hence improving beans and pulses productivity will make a net positive contribution to Ethiopia's exports.

Studies indicate that it is possible to more than double the country's current production of beans and pulses, mainly by increasing productivity. Ethiopia has some of the lowest yields in the world, approximately 1.2 MT per hectare for chick pea, 1.3 for fava bean and 1.4 for haricot beans; against the potentials of 2.6, 2.6 and 4.00 MT per hectare respectively that can be achieved.

The challenges impeding the development of the Ethiopian beans and pulses value chain are not different from those in other crops. They stem from low on-farm productivity caused by limited use of fertilizers, lack of improved seeds and varieties, and inadequate farm management practices on small and fragmented plots with marginal soils. The market structure is ineffective due to a glut of intermediaries which leads to excessive handling and transaction costs and the mixing of different varieties and qualities prior to reaching the processing points. Demand signals from the market do not reach producers and there is lack appropriate financing at critical stages in the value chains. Growers have almost no access to end market actors, leading to undependable and erratic market conditions that do not encourage production increases and expansion of the value chain.

II. BEANS/PULSES VALUE CHAIN BACKGROUND

The beans and pulses value chain was considered to be a late addition to the value chain assessments and although several actors in the value chain were interviewed and secondary data researched, the project will complete a further in-depth analysis of the opportunities and constraints along the beans and pulses value chain. The recommendations concluded in the quick assessment are in line with the IFPRI survey completed in July 2010.

The beans and pulses are a key value chain for economic growth and food security in Ethiopia and are critical to smallholder livelihoods in Ethiopia both in terms of household income as well as nutrition in terms of protein intake. Additionally, if beans and pulses are inter-cropped or used as rotational crops, they can improve soil due to their nitrogen-fixing qualities and therefore reduce the need for use of fertilizers.

There is great potential to increase not only the production of pulses but also the expansion of the export market. Smallholder income has the potential to increase by more than double given investment in inputs, technical assistance for production and post-harvest management and increase in marketing intelligence and promotion.

Pulses also contribute significantly to Ethiopia's balance of payments. They are the third-largest export crop after coffee and sesame, contributing USD 90 million to export earnings in 2007/08 (IFPRI 2010).

In Ethiopia, the largest production is faba beans and then haricot beans which have great potential for exports. Below is a table of estimated production amounts in 2010.

Production estimates (2010) National
Quintals

Faba Horse Beans	600,000
Peas	235,000
Haricot Beans	360,000
Chick Peas	284,000
Lentils	123,000
Grass Peas/Vetches	204,000

Pulses are grown throughout Ethiopia however the majority of production is in the Amhara and Oromiya regions and which together account for 92 percent of chickpea production, 85 percent of faba bean production, 79 percent of haricot bean production, and 79 percent of field pea production (IFPRI 2010).

The current productivity of pulses falls significantly below the demonstrated potential. If technical assistance was provided for production and planting then the potential to double the overall pulse production would be achievable. Additionally, input providers and best use and practices is needed to improve the production in the value chain. With improved and increased production, Ethiopia has the potential to double its current exports.

2.1 END MARKETS

Within the beans and pulses sector there are a variety of value-chains. The various products represent together the third largest export and foreign exchange earnings group of commodities after the coffee and sesame value-chains. As of this writing, the Ethiopian Commodity Exchange (ECX) deals in white (haricot) beans, red beans, fava (horse) beans, and chickpeas. This listing of pulses/beans will certainly continue to grow within the ECX mandate.

Ethiopia is the largest exporter of both common beans and chickpea in Africa. The average annual production and value of the most common pulses/beans for 2009 was 1,000,000 MT with an estimated value of \$500,000,000. Both volume and value showed steady increases since 2008. The annual rate of growth for volume is estimated at 7.4%.

Export destinations included a total of 75 countries and territories. Yemen, United Arab Emirates (UAE), UK, Pakistan, S. Africa, The Netherlands, Sudan, India, Italy, and Belgium, combined, accounted for 68.4% (range: 12.3%-3.8%) of the total common bean export volume.⁶ Overall, given a steady demand world-wide, and the opportunities for diversification, current markets are promising for some time to come.

List of the candidate commodities⁷

The following table depicts the list of the candidate commodities:

Table 1: Category of candidate commodities

Target Market Number	Commodities	No.	Commodities
1	Coffee	8	Cow Milk
2	Sesame	9	Red pepper
3	Haricot bean	10	Barley
4	Honey	11	Lentils
5	Faba bean	12	Field peas
6	Wheat	13	Chick pea
7	Maize		

The demand for pulses/beans appears to be growing with shortfalls pushing up prices several times each year. We note that the Ethiopian Commodity Exchange is adding various commodities to their basket (chickpeas added to white and red means), and that research is receiving more technical (and often financial) support for improving both yield and quality of pulses/beans. More countries are sourcing supply of reliable and quality beans/pulses.

With a wide variety of product, each opening requires a business-oriented evaluation before AMD invests (or recommends the investment by third parties of) financial, material and/or human resources. Calculating the cost-benefit of improved pulses/bean industry development and additional value-added activities with pulses/beans as raw material merits a hard, market-oriented evaluation.

The positive consideration is that the export of pulses and beans is already being achieved in Ethiopia. There is a disconnect between exporters and the remaining supply/value chain (one interviewee had no knowledge and little interest in the up-stream interventions of the supply/value chain. AMD will have to take the initiative to introduce good business practices among the links in the value-chain.

The still unknown part of the equation is how the ECX will choose to deal with those current pulses and bean commodities already under their mandate, and those that will certainly be added to their product list. It is imperative that partners at all levels contribute to facilitating and streamlining the commodity market-based services.

⁶ FAOSTAT

⁷ MoARD, GoE

Transport logistics are a function of the particular commodity. Additional cost requirements include fuel and repair costs and availability of transportation in isolated and with difficult terrain. There also is an impact on cost for the transportation between intermediate storage/warehousing, central consolidation and final export area. These transportation factors are based on commodity, location, available warehousing and other additional related cost factors.

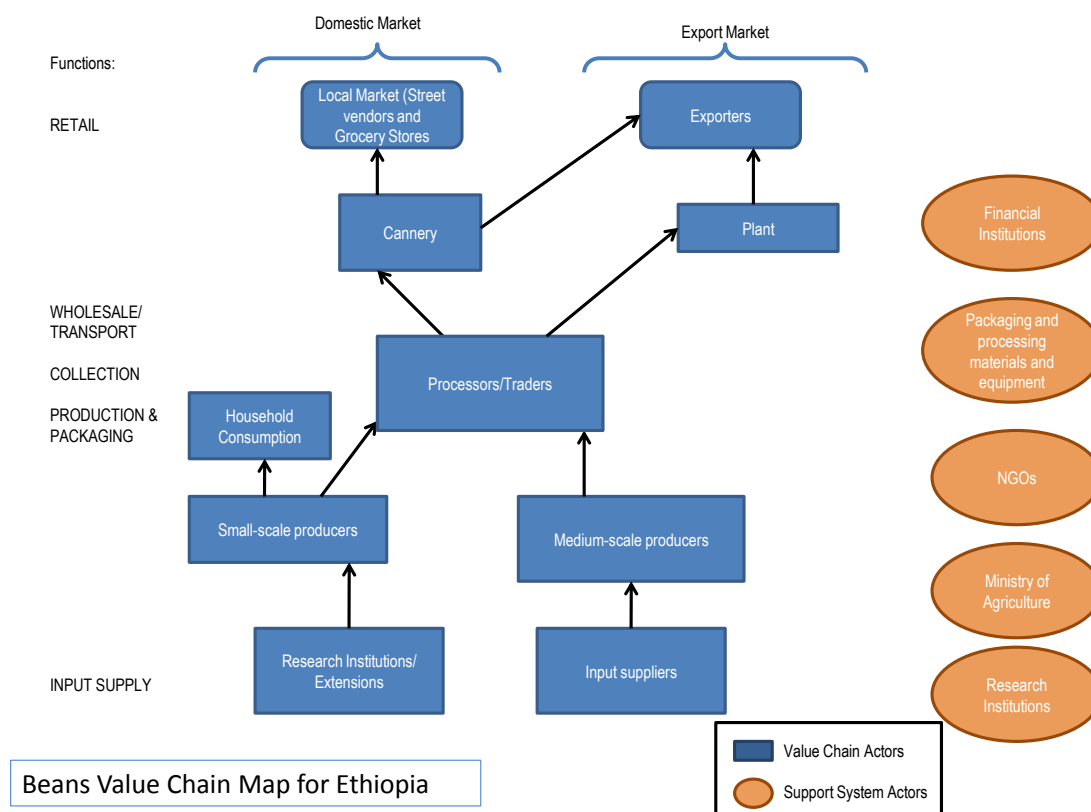
2.2 VALUE CHAIN MAPPING

Mapping is a visual tool that allows us to understand and to present how the value chain functions and specific responsibilities for the production, aggregation and distribution of the beans/pulses products.

- Small-scale Producers: Produce the product and the majority is for household consumption
- Medium-scale producers: Sell to processors or traders
- Plant/Canneries: Process and package the product for retail and export markets
- Exporters: Promoting and selling the final product to export markets

The VC map below provides a placement of actors within the chain and along end market channels. The map is fluid and can, and should be updated on an annual basis. It was produced following discussions and interviews with stakeholders, including input suppliers, EPOSPEA, producers and processors.

MAP 2: DETAILED VALUE CHAIN



III. BEANS/PULSES KEY FINDINGS AND RECOMMENDATIONS

Key opportunities discovered in the beans value chain are the following:

- Increase access to inputs to improve productivity (fertilizer and seed)
- Increase communication among vertical linkages between producers and exporters
- Development of new varieties for export
- Market requirements, information, pricing
- Develop business enabling environment for exports

Key constraints discovered in the beans value chain are as follows:

- Low productivity
- Limited availability of seed and knowledge of varieties
- Limited usage of modern agronomic practices.
- Lack of aggregation
- Export market underdeveloped and inconsistent
- Lack market intelligence
- Inconsistent policy interventions
- Lack of access to credit

Key recommendations to improve the beans/pulses value chain in Ethiopia:

- Multiplication and distribution of certified seed as outlined in other VC's
- Introduce improved bean production practices
- Introduction of improved cleaning, grading and sorting at the farmer cooperative level
- Introduction of credit and savings products for smallholder producers
- Formation of a bean industry association through EPOSPEA and hold international exhibition to raise profile of Ethiopian beans and pulses
- Development of new export markets and facilitate introduction of exportable bean varieties

As the beans and pulses value chain was considered late in the value chain assessment process, it is proposed that a detailed assessment of the current sector's market and industry capabilities be conducted to determine

what will give the highest returns to producers and processors. Targeted plans will then be developed for interventions, including supporting selected cooperatives, unions, traders and processors with the capacity to process and distribute in domestic and regional markets.

Related to the disconnect between producers and end markets in the beans and pulses value chains, it is recommended to work closely with EPOSPEA to establish direct linkages between unions, exporters and buyers, which will result in long-term business relationships that ultimately benefit producers. To this end, a selected number of inward buyer missions will be supported. Support is needed in order for EPOSPEA to develop long-term market strategies for the integration of dry beans into the export market along with other pulses.

It is recommended that beans and pulses be integrated into other value chains as viable rotational and cash crops. Cooperation agreements will be required to undertake these activities in partnership with cooperatives, unions, associations and private agro-dealers, which will include adherence to environment-friendly principles.

Support is needed for improved seed initiatives, including the selection and multiplication of seed varieties for different climatic and agronomic zones. Demonstration plots are recommended in order to compare the performance of different varieties, show responses to prescribed fertilizers, and introduce new seeding and tillage practices.

A potential private sector partnership can be developed through PepsiCo which aims to enhance the production and productivity of chick peas in Ethiopia and to promote its wider use as a nutritional food for domestic and export markets. Support should be provided in modalities for seed multiplication and selection of additional production sites and linkages to partners for both production and marketing.

Factors	Key Opportunities	Key Constraints to the opportunities	Recommendations
End Markets (EM)	<ul style="list-style-type: none"> • Pulses and beans contribute significantly to Ethiopia's balance of payments and have high potential to increase revenues for export markets • High potential to increase production thereby increasing domestic and export sales as well as household incomes 	<ul style="list-style-type: none"> • Lack of experience in accessing international markets • Lack of market intelligence • Lack of export trader association (currently linked to grains) • Poor export promotion 	<ul style="list-style-type: none"> • Develop incentives for exporters to invest • Formation of a bean industry association through EPOSPEA and hold international exhibition to raise profile of Ethiopian beans and pulses • Develop a business environment conducive to investment, and policies to scale exporters • Strengthen export promotion, market intelligence, and the branding of Ethiopian products
Producer/Processing	<ul style="list-style-type: none"> • Introduction of improved cleaning, grading and sorting at the farmer cooperative level • Potential for value-added processing for the domestic and export markets • Potential for increased quality control 	<ul style="list-style-type: none"> • Lack of modern agricultural practices (poor planting and harvesting techniques) • Lack of grading and sorting • Inappropriate post-harvest handling • Little or no pest control • Lack of access to credit 	<ul style="list-style-type: none"> • Supply smallholders with input supply packages, consistent off-take, and market information • Link smallholders with agribusiness enterprises through contract farming; put mechanisms in place for quality control • Improve on-farm storage management practices and structures
Input Supply	<ul style="list-style-type: none"> • Pulses and beans benefit soils through nitrogen-fixing, improving yields of cereals through crop rotation • Agro-dealers capacity to include training alongside fertilizer sales • Participation of research institutions to improved seed quality and variety 	<ul style="list-style-type: none"> • Lack of awareness of the benefit of fertilizer use • Limited availability of improved seeds 	<ul style="list-style-type: none"> • Source fertilizers and train smallholders on their use • Increase pulse varieties • Increase seed multiplication in order to meet needs of export and domestic demand • Incorporate pulses into the extension curriculum